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Do-It-Yourself Booklet No. 15

MODERNIZE Your KITCHEN

Popular Mechanics Press

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The modern kitchen that you have dreamed about is well within a modest budget if you are willing to do most of the work yourself—including the planning. Whether you build the cabinets, or purchase and install them (in either case, you will effect a considerable saving), the arrangement should be well planned to save steps as well as to get a pleasing appearance. Every hour of planning will be time well spent. In fact, many home-owners, after they have the arrangement worked out to their satisfaction, make up a small scale model of their proposed kitchen. A model helps you to visualize the full-size kitchen and often shows up oversights in planning that were not apparent in sketches and plan drawings. Planning sets (below) are available at many dealers and may even include miniature walls to which the cabinets can be attached in proposed arrangements

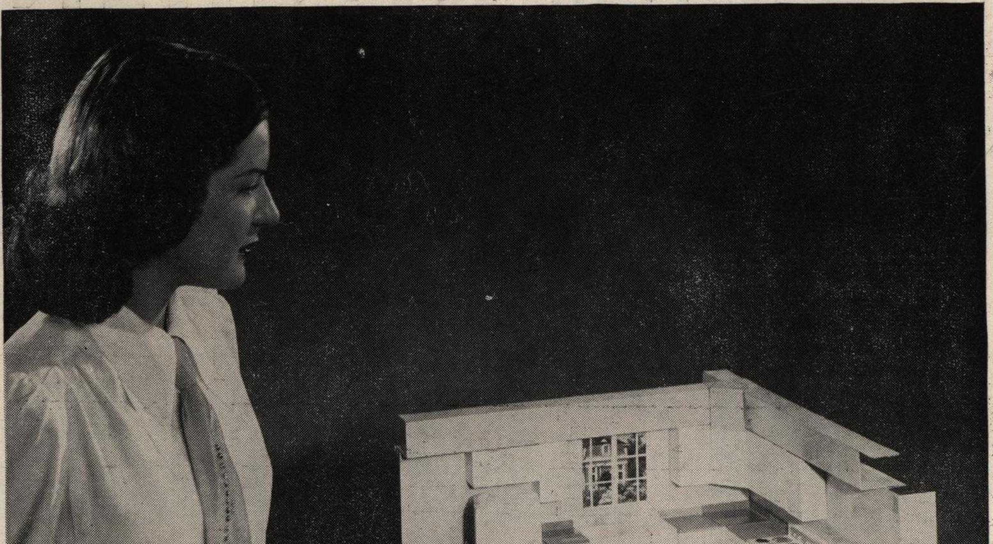


Photo courtesy General Electric Co.

Photo courtesy makers of Armstrong linoleum

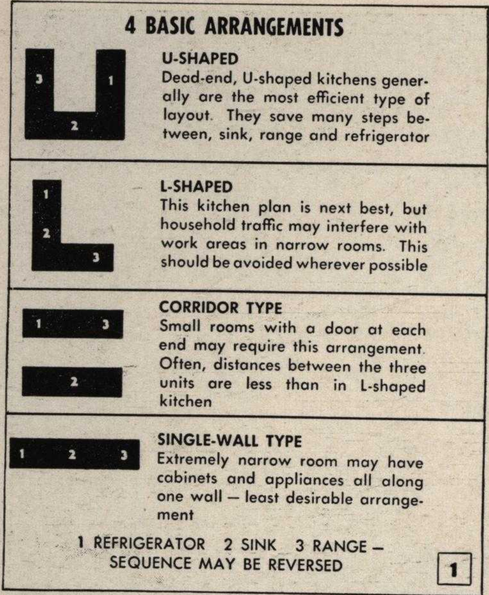
Remodeling can transform your old kitchen into one of glamorous beauty and step-saving efficiency, with plenty of cabinet and counter space, work-saving appliances, spot and general lighting, colorful floor and walls

Your Modern Kitchen

MODERN, STREAMLINED KITCHENS are amazing improvements over those of grandmother's day, and even over those of 10 and 15 years ago. It is no wonder then, that the kitchen usually is the first room that is contemplated for major improvement. An old kitchen brought up to date with improved facilities means much less work and more pleasant surroundings. Modern equipment eliminates most of the stooping, reaching and stretching necessary in older kitchens. The biggest chore — dishwashing — now can be done automatically, and with a maximum degree of sanitation. It is only necessary to scrape off the leavings from plates and utensils, place them in a dishwashing unit, and turn on the switch. The cycles of washing, rinsing and drying follow each other without your attention.

Most older kitchens are inefficient because they are not arranged to conform with the natural sequences in which food is brought into the kitchen, stored and then prepared for consumption—a sort of production-line sequence. In such a kitchen countless steps and time are wasted. Another major fault of many older kitchens is the limited amount of storage and counter space, and the inconvenient location of dishes, utensils and supplies, which should be almost within arm's reach from the point where they are needed. Often an old kitchen can be made much more convenient by simply rearranging the existing facilities and adding more cabinet and counter space. The appearance of counters, as well as that of walls and floors, can be improved greatly by using durable, attractive coverings now available in many colors and designs.

The cost of modernizing a kitchen will vary with the number and kind of improvements installed. Where a large expenditure is made for equipment, you can make a saving by installing it yourself. You may also be able to build some of the cabinets, breakfast nook, snack bar, and other



4 BASIC ARRANGEMENTS

U-SHAPED
Dead-end, U-shaped kitchens generally are the most efficient type of layout. They save many steps between, sink, range and refrigerator

L-SHAPED
This kitchen plan is next best, but household traffic may interfere with work areas in narrow rooms. This should be avoided wherever possible

CORRIDOR TYPE
Small rooms with a door at each end may require this arrangement. Often, distances between the three units are less than in L-shaped kitchen

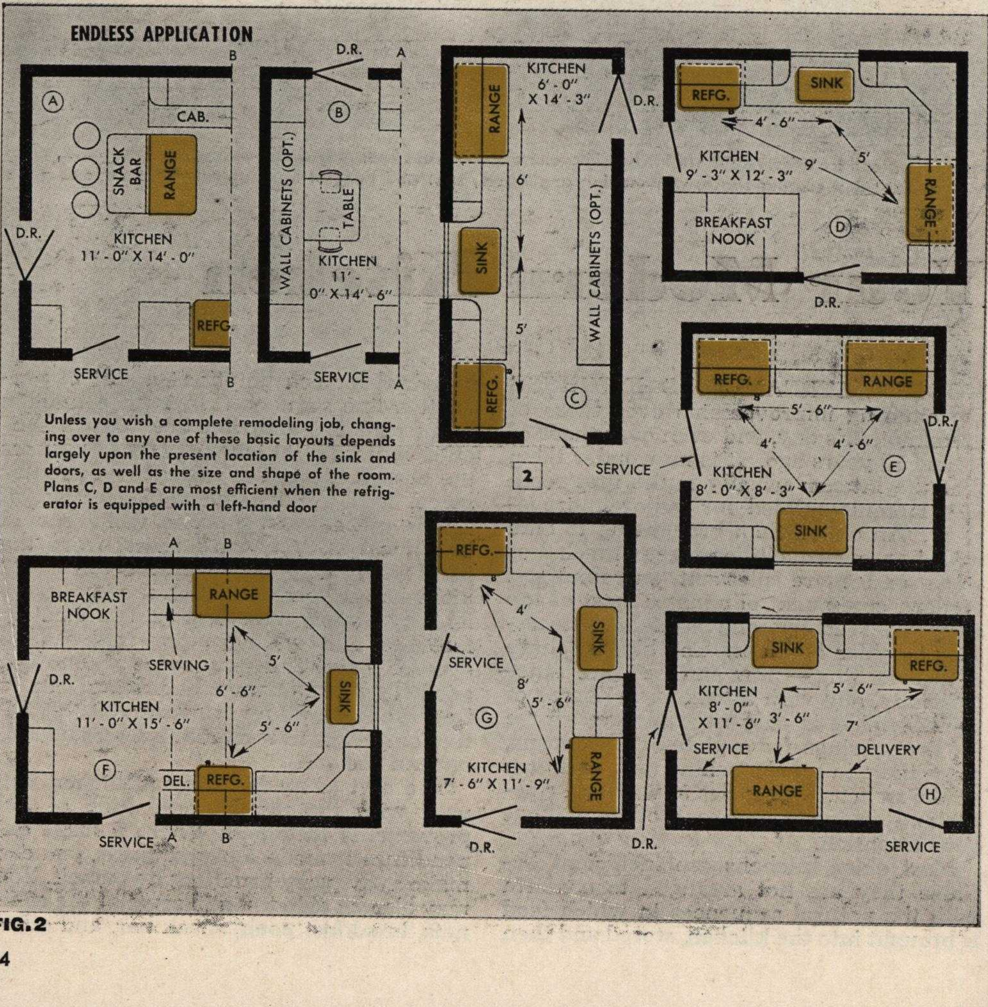
SINGLE-WALL TYPE
Extremely narrow room may have cabinets and appliances all along one wall — least desirable arrangement

1 REFRIGERATOR 2 SINK 3 RANGE — SEQUENCE MAY BE REVERSED

equipment yourself, which represents a further saving.

The first essential is good planning. After getting acquainted with the requirements of a modern kitchen, you plan to meet these in the space that you have available. Time spent in planning can eliminate many errors. Perhaps existing plumbing lines can be utilized without appreciable change. However, don't hesitate to have them extended to locations that are better suited to producing a more efficient kitchen. Added electrical outlets may also be needed. All work of extending the wiring and plumbing lines should be done prior to the installation of cabinets.

Four basic arrangements: Today's kitchens are based on the four basic arrangements shown in Fig. 1. You can approximate one of these even if the shape of your present kitchen cannot be altered. Keep in mind that in every kitchen there are three centers of activity: 1—storage, 2—preparation and cleaning, 3—cooking and serving. All of these centers include vital appliances



Unless you wish a complete remodeling job, changing over to any one of these basic layouts depends largely upon the present location of the sink and doors, as well as the size and shape of the room. Plans C, D and E are most efficient when the refrigerator is equipped with a left-hand door

FIG. 2

Photo courtesy Pittsburgh Plate Glass Co.

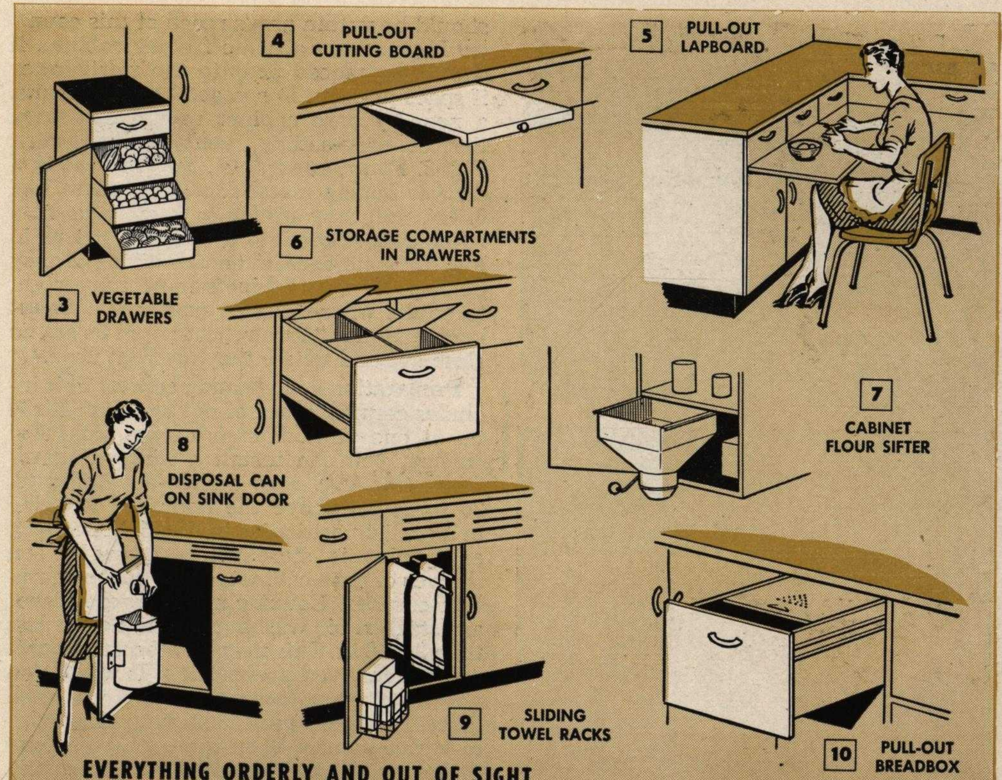
Many different kinds of materials are used in styling smart, modern kitchens for various effects. Walls may be of sparkling structural glass in color, or may be of beautifully grained wood for cozy, colonial effect

Photo courtesy Western Pine Assn.

Photo courtesy Formica Co.

The economy of today's average household does not include provisions for servants, but is based on the do-it-yourself idea. Accordingly, the food-preparation and food-consumption centers are brought close together

Photo courtesy Masonite Corp.



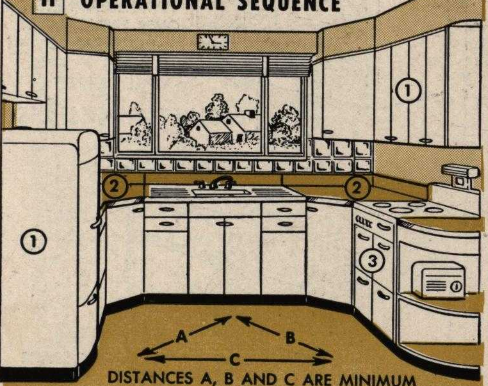
EVERYTHING ORDERLY AND OUT OF SIGHT

and cabinets placed in a production-line sequence so that kitchen operations can proceed orderly from storage to the dining table. The line starts at the service door where food is delivered, and ends at the nearest point to where food is served. A, B and C of Fig. 11 indicate the paths of walking in a kitchen. It is important that these be as short as possible over the usual minimum of 4 ft. to save steps, especially distance B, between sink and range, where most walking is done.

By studying the typical kitchen layouts shown in Fig. 2, you'll find one that is most adaptable to the shape of your present kitchen. The new arrangement will depend largely on the location of the sink as extensive plumbing changes are expensive, although pipes can be shifted about 8 in. in either direction at small cost. A dead-end, U-shape kitchen generally is the most efficient. See Plan F of Fig. 2. Two alternate arrangements of one end are shown at A and B. If the room is less than 11 ft. wide, the two wall cabinets on the same wall as the window are eliminated and the width of base cabinets along this wall is reduced. Then the plan will fit an 8 or 9-ft. kitchen width but the alternate arrangements at A and B may not be possible. If your kitchen is 4 or 5 ft. shorter than the plan shown at F, the breakfast space may have to be sacrificed.

Storage center: Counter space of at least 18 x 24 in. should be provided next to the refrigerator on the side where the door opens. This is for deliveries as well as for food to be removed from or returned to the refrigerator. Cabinet storage space

11 OPERATIONAL SEQUENCE



DISTANCES A, B AND C ARE MINIMUM ABOVE 4 FT. FOR EFFICIENCY

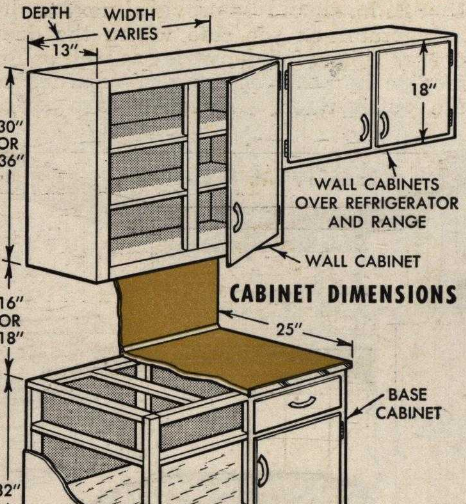
HOUSEHOLD TRAFFIC DOES NOT CROSS WORK AREA

1-STORAGE 2-PREPARATION 3-COOKING & SERVING

KITCHEN STORAGE SPACE AND COUNTER REQUIREMENTS 13	1 bedroom (2 adults)	2 bedrooms (3 adults)	3 bedrooms (4 adults)	4 bedrooms (5 adults)	5 bedrooms (6 adults)
Wall-cabinet shelf area (sq. ft.)	24	30	36	42	48
Base-cabinet drawer capacity (cu. ft.)	36	45	54	63	72
Counter area (sq. ft.)	16	20	24	28	32
Refrigerator capacity (cu. ft.)	5	6-8	6-8	8-12	8-12

This table based on usual occupancy of residence with provisions for moderate entertaining. Storage space is influenced also by frequency of food deliveries and unusual volume of entertaining, not included in these figures.

Data reproduced by courtesy of General Electric Co.

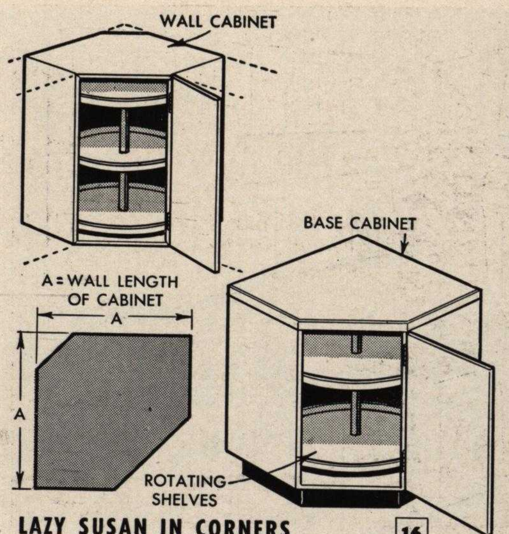


should be within arm's reach of this counter. If you have a home freezer cabinet, it should be placed next to the refrigerator if space permits. For vegetables and fruits, a near-by base cabinet should contain a tier of easy-sliding, ventilated drawers, Fig. 3. Flour, sugar, etc., can be kept in a drawer having metal containers as in Fig. 6. Or, you may prefer to keep flour in a sifter that slides into a wall cabinet as in Fig. 7. Some cereals and condiments may be kept in wall cabinets most convenient to points where food is prepared. Always keep in mind that supplies should be stored close at hand where they are first used.

Preparation and cleaning center: This includes counter space of not less than 24x36 in. at one or both ends of the sink. For cutting, you can install a slide-out hardwood leaf, Fig. 4, or a slide-out lapboard, 26 to 28 in. above the floor, for working in a seated position as in Fig. 5. Processing equipment is stored in drawers or on shelves of base cabinets along the preparation counter. Counter space where dishes are stacked for washing should not be less than 24x36 in. This may be the same counter used for food preparation. It will be on your right when facing the sink if you wash dishes, from stacking to storing, in a right-to-left sequence. Then the cabinets where dishes are stored should be at your left, so they can be dried and put into the cupboard. Cutlery goes into partitioned drawers near by, and cooking utensils preferably on easy-sliding shelves or drawers in base cabinets. Dishwashing equipment is stored under the sink and this space may include one or more sliding towel racks as in Fig. 9. Convenient disposal cans may be fitted on the sink-cabinet doors as in Fig. 8—one provided with a waxed-paper

15 SIZES AVAILABLE IN READY-MADE WOOD AND STEEL CABINETS (dimensions in inches)

TYPE CABINET	WIDTHS	HEIGHT	DEPTH
Wall	15, 18, 21 24, 27, 30 36, 42	18, 30, 36	12, 13
Base	15, 18, 21 24, 27, 30 36, 42, 48	36	24 to 24¾
Counter			25 to 27
Corner wall units	24 and 26 on each wall	30, 36	13
Corner base units	29 and 36 on each wall	36	24 to 24¾
Sink units	18, 21, 24, 30 36, 42, 48, 54 60, 66, 72, 84	36	24 to 24¾
Utility	18, 21	84	13, 18, 21, 24, 24¾



LAZY SUSAN IN CORNERS 16

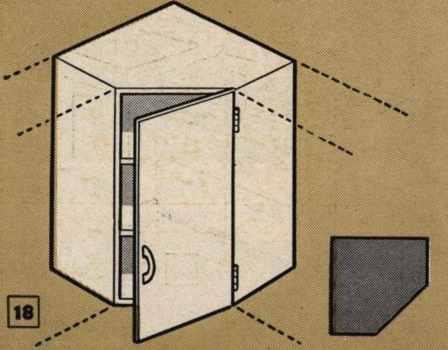
17

bag to catch refuse, and the other for empty cans, jars and bottles. If you go beyond the manual dishwashing stage, you'll install an electric dishwasher and perhaps also a motorized disposal unit.

Cooking center: The cooking range should be located conveniently near the dining-room door, breakfast nook or both. A counter not smaller than 24x24 in. should be placed next to the range to facilitate transferring cooked food to serving dishes. Base cabinets near the range can hold some of the heavy cooking utensils. Bread and bakery goods are kept near the range in a special metal-lined drawer similar to the one in the drawing in Fig. 10.

Planning center is optional: If space permits, you can have a planning center. A drop-leaf table 30 in. high and a stool or chair that slides under it are provided as in Fig. 12. An open wall shelf holds a small radio and cookbooks so that the table can be pulled out into the room and used for other purposes. A shallow drawer keeps pads, pencils and bills out of sight.

Figuring storage space: When planning a new kitchen, first determine the storage and counter space needed. This varies with the size of the house and the family (see Fig. 13). Compare your figures with the measurements of base and wall cabinets given in Figs. 14 and 15 so that you can work out cabinet and counter dimensions to suit. Ready-made wooden and steel cabinets are available in the sizes given in Fig. 15. If the kitchen is larger than needed, only part of it may be required, leaving space for a breakfast nook or snack bar as suggested in Fig. 2, plans A, B, D and F. Corner space can be utilized to best advantage by using corner cabinets, available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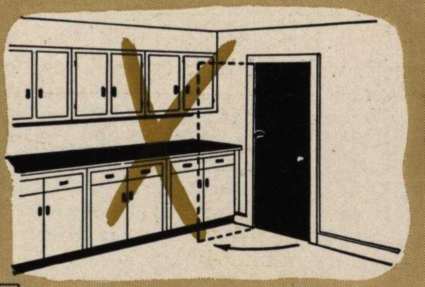
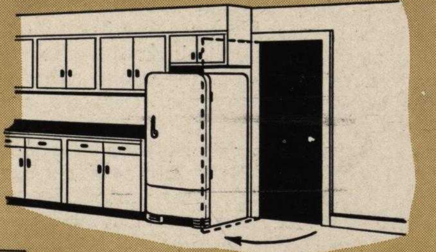
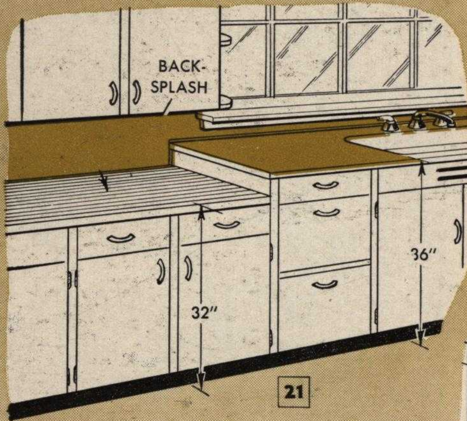

19 DOOR SWINGS AGAINST CABINET


20 DOOR SWINGS AGAINST SIDE OF REFRIGERATOR



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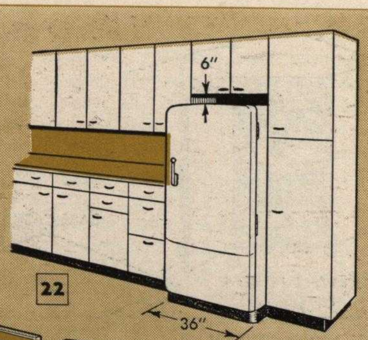

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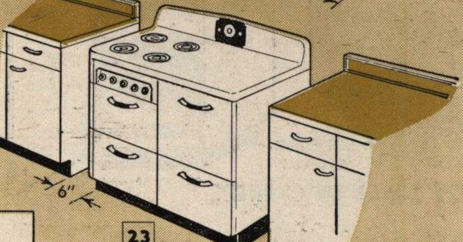

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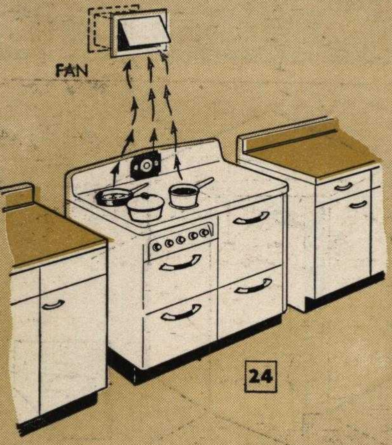

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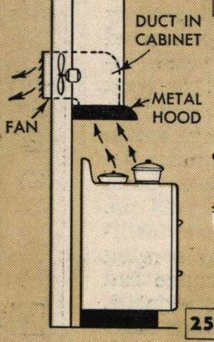

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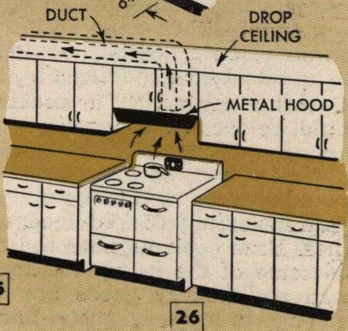

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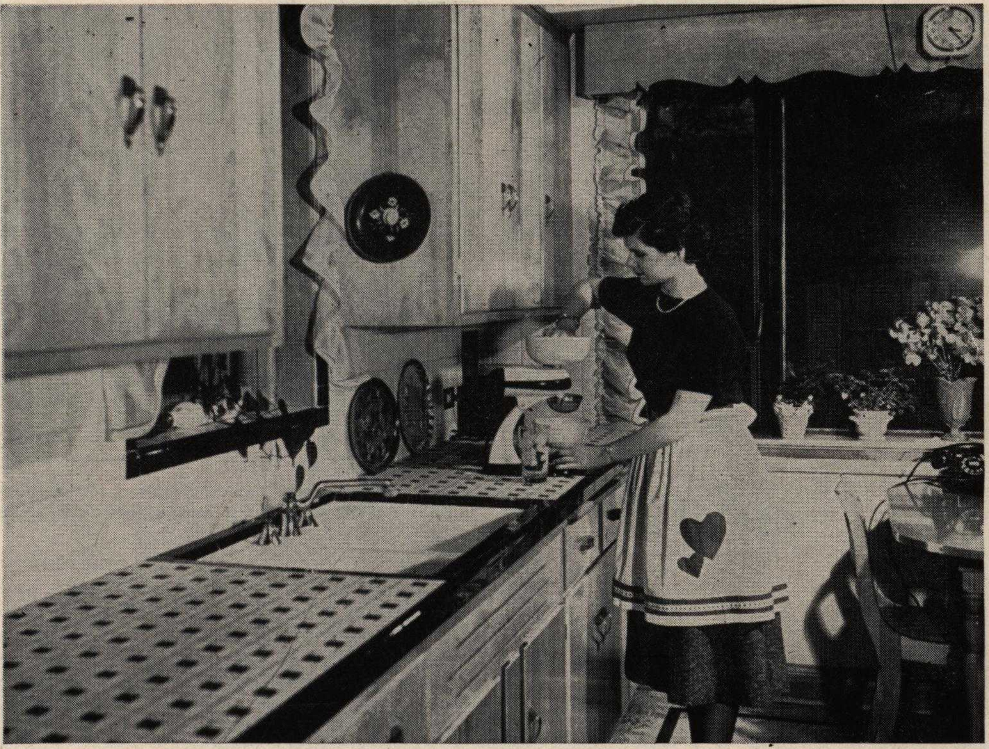
in both wall and base types. These have doors at a 45-deg. angle to the walls as in Fig. 18. Some types are available with rotating shelves, as in Fig. 16, which further increases their convenience. A utility cabinet for brooms, dust mops and vacuum cleaner, and a cabinet for clothes and rubbers, can be included in your kitchen plans. Also include a built-in ironing board if the kitchen is to be used for ironing.

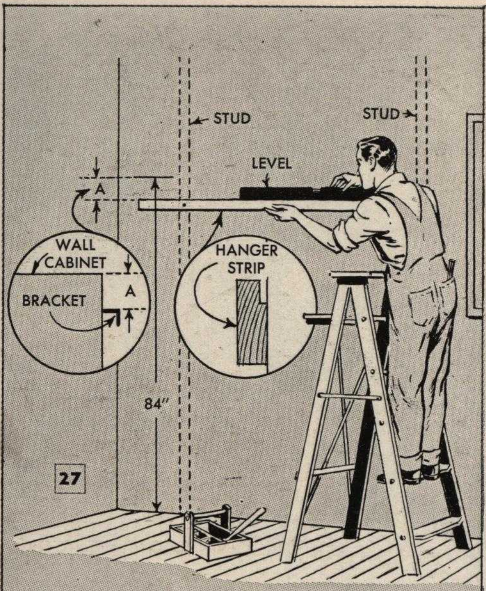
Planning with scale models: An excellent method of crystallizing a plan is to draw the floor space of your present kitchen to scale, say ½ in. to 1 ft., including the exact position of the sink, doors and windows. Then cut out, also to scale, cardboard strips representing the range and refrigerator, and two strips representing the total length of the wall and base cabinets required. After positioning the range and refrigerator at the right locations, cut up the cabinet strips to fit between and adjacent to them. Clearance between counters facing each other should not be less than 4 ft.

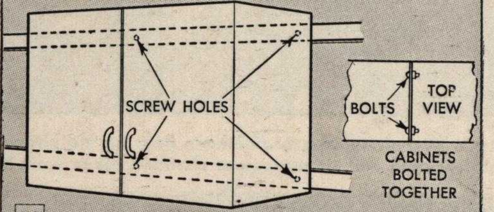
Windows and doors: Sometimes, for best results, it may be advisable to have a carpenter change the location of a window or door—or just the direction the door swings. Windows in frame houses are easier and less expensive to change than those in brick houses. For adequate illumination, the window area of a kitchen should not be less than 20 percent of the floor area. One counter at least, preferably the preparation and cleaning counter, should be well lighted from a window. Most women prefer to have a sink at a window but this is not essential in a well-planned, efficient kitchen. Windows never should be "boxed in" by wall cabinets. A much better appearance results when cabinets are spaced about 9 in. from the window edges and rounded shelves are installed as shown in Fig. 17.

Changing the position of a door entails considerable mess. A door should not swing into a work area or interfere with the use of cabinets and appliances as in Fig. 19. Nor should a door swing against an open

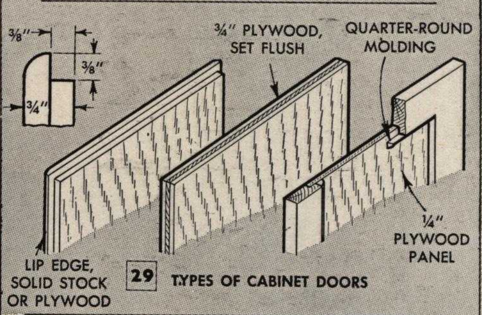


Modernized, streamlined kitchens are great improvements over those of grandmother's day; an old kitchen brought up to date with improved facilities means much less work and more pleasant surroundings to work in





CABINETS SCREWED TO HANGER STRIPS



TYPES OF CABINET DOORS

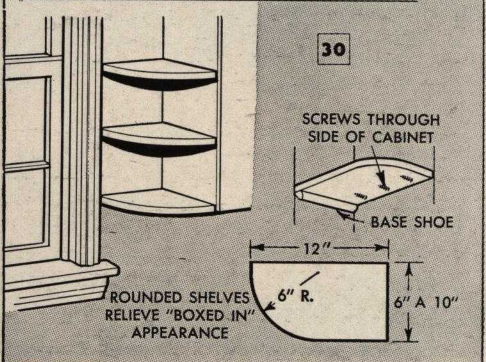

30
SCREWS THROUGH SIDE OF CABINET
BASE SHOE
12″
6″ R.
6″ A 10″
ROUNDED SHELVES RELIEVE "BOXED IN" APPEARANCE

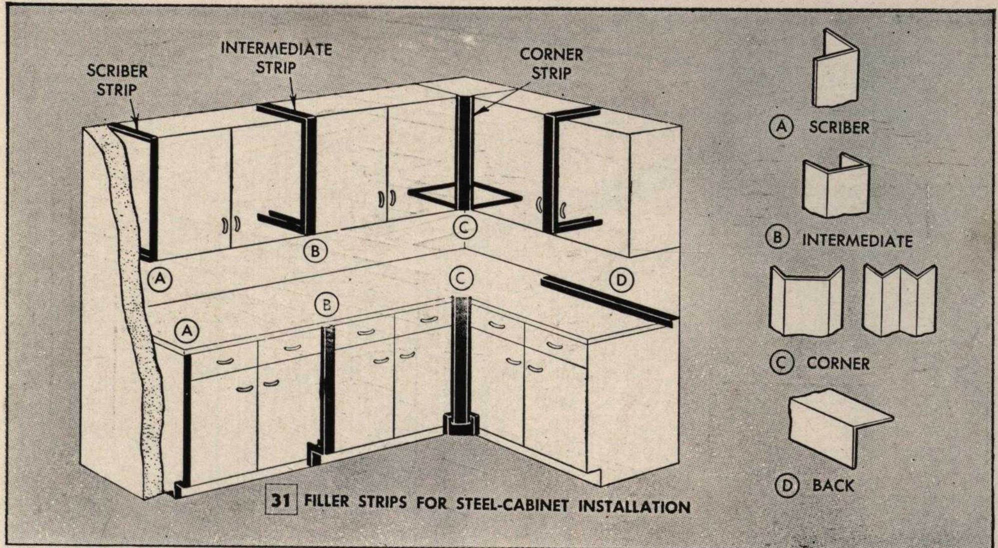
Illustration courtesy A. J. Lindemann & Hoverson Co.

Wall or cabinet oven has an infra-red ray broiling unit, a stainless-steel front and automatic controls

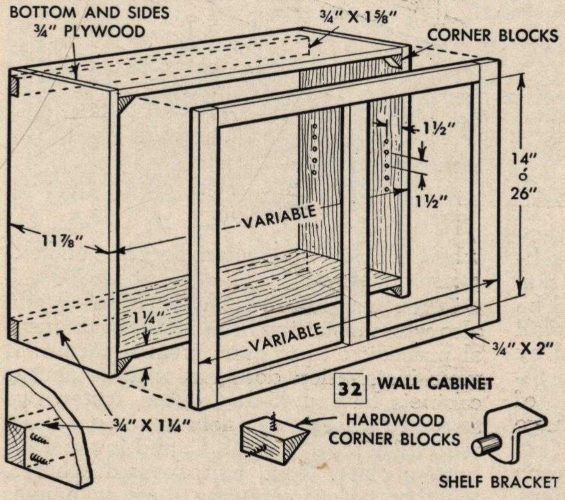
wall which should be used for a necessary cabinet. A door may swing against the end of a cabinet or appliance as in Fig. 20. Two doors are preferred to three, especially in small kitchens. If possible, they should be located so that household traffic will not cross kitchen work areas, as indicated by the arrow in Fig. 11 and also in the floor plans A, B and F in Fig. 2.

Cabinet heights, clearances, spacing: Base cabinets should have toe space 4 in. high and 3 in. deep to facilitate working at counters without leaning. Standard height of base cabinets is 36 in. although the food-preparation counter, or part of it, may be lower to suit the user. A 32-in. height here suits the average woman. Glued-up hardwood tops are available as shown in Fig. 21. There should be a clearance of 15 to 18 in. between counters and wall cabinets.

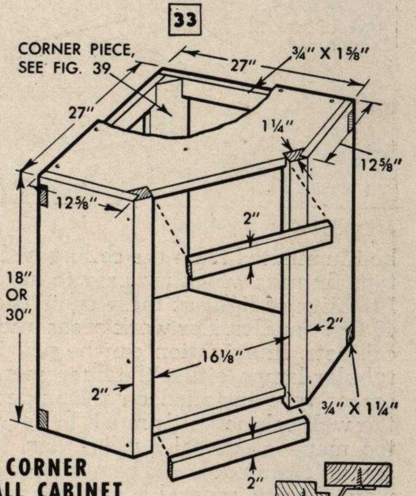
Wall space over sinks and counters should be protected with a backsplash, Fig. 21, not less than 4 in. high and preferably extending from the counter to the wall cabinets. When planning cabinets, a space 36 in. wide generally is allowed for a refrigerator, with a 6-in. clearance above it, Fig. 22. Most kitchen ranges are of the 36 or 39-in. size. Normally, a 42-in. space is allowed to accommodate them but if the range is set between cabinets, or a cabinet and a wall, this allowance is not enough to permit cleaning the sides of the range. A 6-in. space at each end as shown in Fig. 23 is better. A 30-in. wall cabinet may be set over an electric range with the usual 18-in. clearance. Gas ranges, however, require at least a 30-in. clearance because of their greater fire hazard. This still permits the use of 18-in. wall cabinets over them, if necessary, but none at all is preferable.



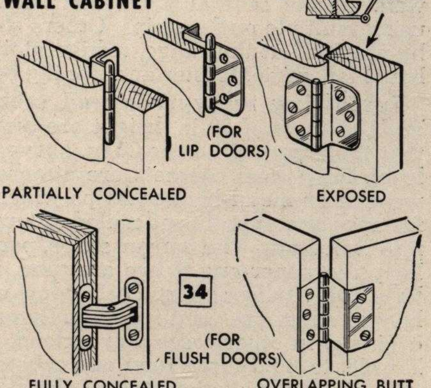
31 FILLER STRIPS FOR STEEL-CABINET INSTALLATION



32 WALL CABINET



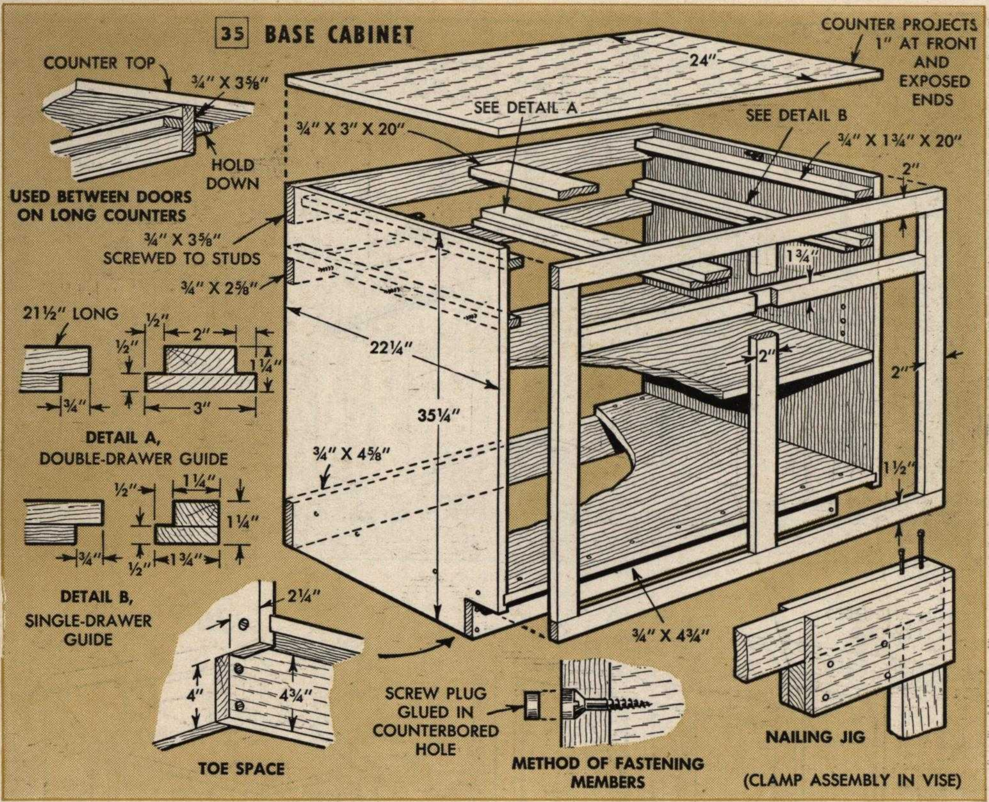
33 CORNER WALL CABINET



TYPES OF CABINET DOOR HINGES

Kitchen ventilation: An exhaust fan gives a complete change of air in a few minutes to eliminate cooking odors, excess heat and humidity. Air exhausted by the fan is automatically replaced by fresh air drawn in through an open window, or air coming from other rooms. Often an exhaust fan is located over a service door. However, if the range is against an outside wall, a better place for the fan is directly above the range as in Fig. 24. Two other arrangements are shown in Figs. 25 and 26. Prefabricated hoods equipped with exhaust fans are available in various sizes.

Lighting fixtures: It's advisable to have a center ceiling light for general illumination of 10 foot-candles. A control switch should be located at each important entrance. Sink, range and breakfast table can

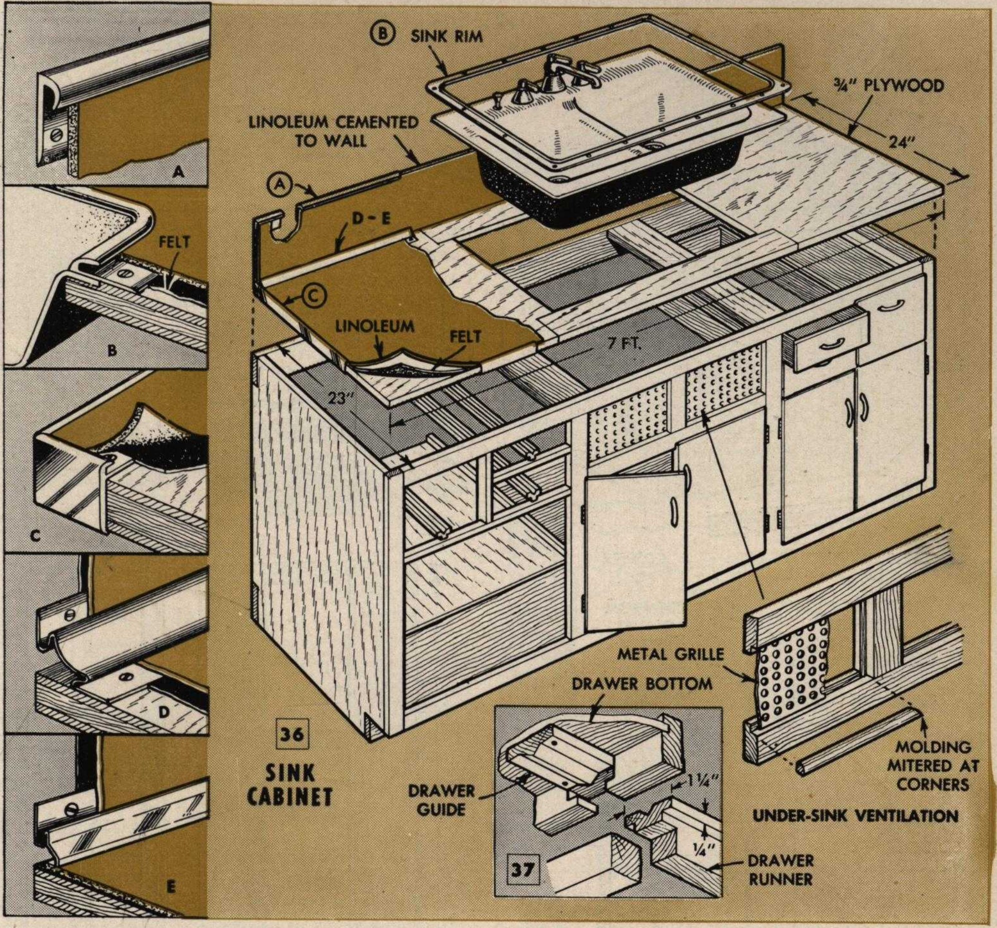

35 BASE CABINET

be illuminated from the ceiling with flush-type fixtures which are easy to keep clean. Intensity of light at these spots should be 40 foot-candles. For work areas under wall cabinets, illumination can be provided by tubular lamps, either the fluorescent or filament type installed on the underside of the wall cabinets. It's much better to have too many electrical outlets than too few, and at least two should be provided on each wall. Locate several along the counters, using multiple outlet strips. Others should be provided at the range, refrigerator, exhaust fan, radio, toaster and ironing board.

Installing ready-made wall cabinets: Wall cabinets of 30-in. height are hung so that their tops will come 84 in. above floor level. Most steel cabinets are attached to wooden or metal hanger strips which are fastened horizontally and nailed or screwed into wall studs. The hanger strips, particularly the upper one if two are used, must be absolutely level, Fig. 27. In some cases, hanger strips are used individually on the cabinets; in other cases they extend, as in Fig. 28, to hold more than one cabinet. In still other installations, the cabinets are screwed directly to the walls with the screws driven into studs. On hollow tile walls, toggle bolts are used for fastening, whereas brick walls require screws and expansion sleeves.

When hanging metal wall cabinets, and also when installing base cabinets, the usual procedure is to start from a corner. If your installation does not include corner cabinets having 45-deg. doors, fasten two standard straight cabinets to a metal "corner" filler strip, Fig. 31, C, and to a corner bottom plate. Next, bolt, several cabinets together before screwing them to hanger strips or wall. Steel cabinets are sometimes provided with removable knockouts for bolts used to fasten the cabinets together. If not, holes must be drilled. Wooden cabinets generally are fastened together with screws. Before screwing the cabinets permanently, check with a level to see that the front and sides are plumb. Often it is necessary to use shims behind the cabinets where plastered walls are uneven.

Avoid locating a refrigerator next to a corner wall cabinet as it will interfere with opening the cabinet door. Avoid having a cabinet butt tightly against an end wall, as this would interfere with the operation of doors. This also applies to base cabinets. The needed clearance space between cabinet and wall is concealed by using a "scriber" filler strip, Fig. 31, A. If the wall is



36 SINK CABINET

37

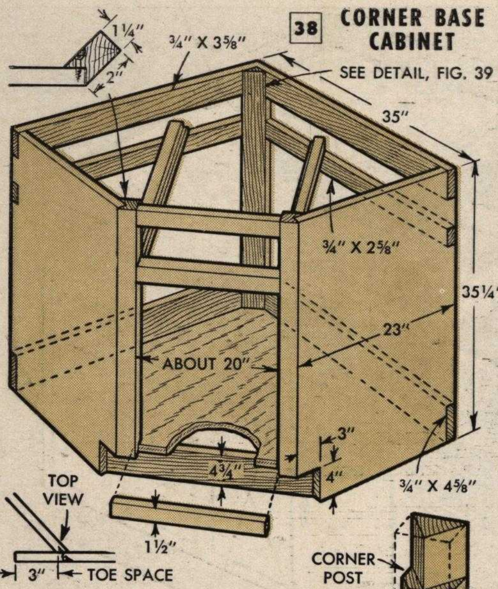
uneven, the strip is held in position, scribed to conform to the wall surface and then cut accordingly with tin shears and fastened in place. On metal wall cabinets having sides that do not conceal the hanger strips, "back" filler strips, Fig. 31, D, are added for concealment. A spacing of 6 to 10 in. is recommended between wall cabinets and windows where rounded shelves, Fig. 30, are used. When it is necessary to fill a gap of a few inches between cabinets to stretch them, an "intermediate" filler strip, Fig. 31, B, is used. These strips come in various widths.

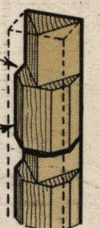
Base cabinets and counters: Installation of base cabinets is started at corners the same as with wall cabinets. If the corner space is not to be used, two straight-type cabinets can be butted together at right angles and a corner filler strip added at the front. Then a counter support cleat is nailed or screwed to the wall studs. Corner space can be utilized with special cabinets having parallel-to-wall or 45-deg. fronts, in which case no corner strips are needed. The cabinets are fastened together, shimmed with wooden wedges to get them perfectly level on uneven floors, then screwed to wall studs. A base shoe will hide the exposed crack where the cabinet is raised above the floor.

A base-cabinet assembly also can be "stretched" to desired length by either inserting a narrow tray cabinet or else using one or more "intermediate" filler strips between the cabinets. A single counter can extend over the entire assembly although, in some packaged units, individual cabinet counters are provided. Where counters butt against sinks, wedge-shaped filler strips coated with sealing compound assure waterproof joints. Backsplash on sinks and counters may be integral with them, may be attached as separate units, or may be provided by covering wall with linoleum.

Building your own: Cabinet construction is simplest if ¾-in., 7-ply plywood is used together with solid stock lumber. White pine is good, and so is birch or gum. Thin plywood or hardboard requires additional

38 **CORNER BASE CABINET**





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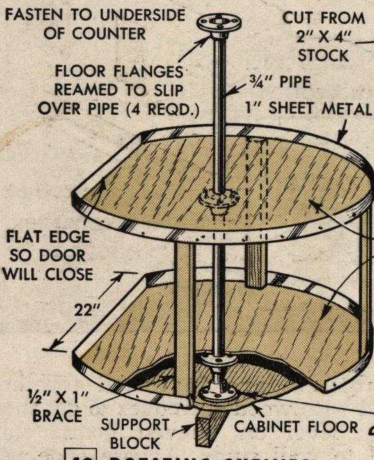
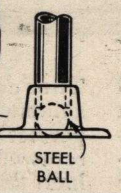
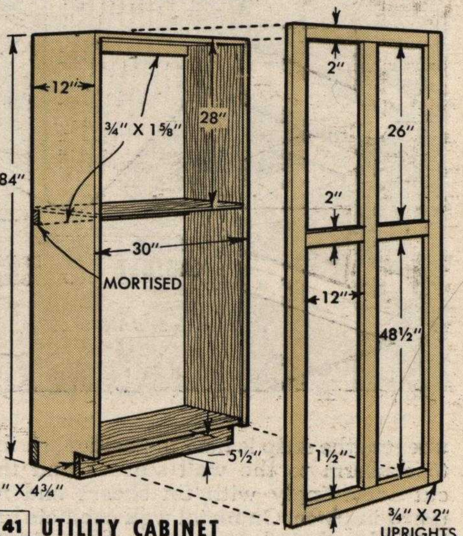

FASTEN TO UNDERSIDE OF COUNTER
FLOOR FLANGES REAMED TO SLIP OVER PIPE (4 REQD.)
¾″ PIPE
1″ SHEET METAL
FLAT EDGE SO DOOR WILL CLOSE
½″ PLYWOOD, ⅜″ DIA.
22″
½″ X 1″ BRACE
SUPPORT BLOCK
CABINET FLOOR

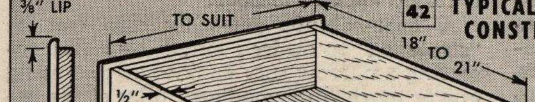


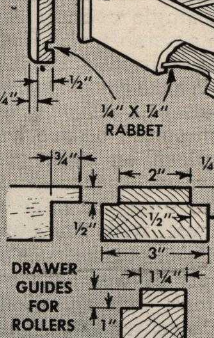
40 **ROTATING SHELVES**



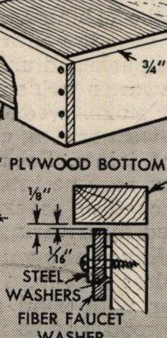
41 **UTILITY CABINET**

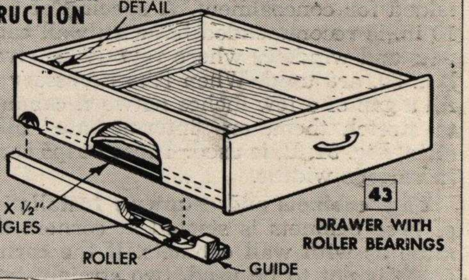
42 **TYPICAL DRAWER CONSTRUCTION**





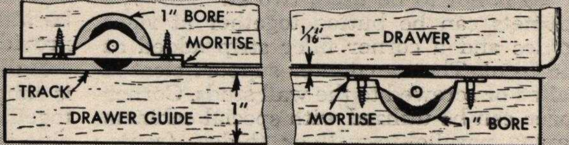
DRAWER GUIDES FOR ROLLERS





43

DRAWER WITH ROLLER BEARINGS



ROLLER-BEARING INSTALLATION

framework and entails considerable joinery. Simple screwed or nailed joints, coated with glue where possible, give adequate strength, although dowels produce stronger joints where narrow stock is butted together. Flat-headed screws are concealed in holes counterbored and drilled for the screw body. A pilot hole should be drilled for the thread portion of the screw, and the screw coated with soap for easy driving. Plugs, cut from dowels that fit the holes tightly, are glue-coated and driven to come flush with the surface. Crack filling, sanding and painting will conceal them entirely.

Making wall cabinets: The top, bottom and sides of wall cabinets, Fig. 32, are 11⅞ in. wide to get four widths, including waste for saw cuts, out of a standard 48-in. plywood panel. Before assembling, the inner faces of the side members are drilled for shelf brackets. Note that the front framework is made separately of solid stock and fastened with glue and 6 or 7d finishing nails. Butt joints of narrow stock can be assembled flush at the sides with the nailing jig shown in Fig. 35, using a C-clamp to hold the joining pieces together tightly. Then two 10d finishing nails are driven in, slightly toed toward each other, and the heads are sunk about ½ in. deep with a nail set. For extra rigidity, hardwood corner blocks are glued and screwed in place. When cabinets extend to the ceiling, the portion above the 84-in. height should have separate doors.

In the corner wall cabinet shown in Fig. 33, the sidepieces of the doorframe are hardwood, rabbeted, glued and screwed to the side panels. Corner posts for wall and base cabinets are made as shown in Fig. 39. Top and bottom of the cabinet extend 1 in. into the doorframe so that ¾-in. inserts will fit flush with the front.

Rounded shelves to flank windows are detailed in Fig. 30 Three types of modern cabinet doors are shown in Fig. 29 and five types of hinges are shown in Fig. 34. In fitting the doors, allow 1/16 in. all around the opening for clearance.

Construction of base cabinets: Baseboards are removed for installing base cabinets detailed in Figs. 35 and 38. Toe space should be 4 in. high and 3 in. deep. If desired, the cabinet floor may be set into ⅛-in. grooves in the sides for added rigidity, the floor being glued and screwed through the sides. As with wall cabinets, the front framework is made separately and, after it is attached, the drawer guides, hold-downs and counter-support crosspieces are installed. An alternate arrangement for drawer guides, using a single V-shaped guide for each drawer, is shown in Fig. 37. For ventilation under a sink, metal grilles are advised, and counters can be screwed

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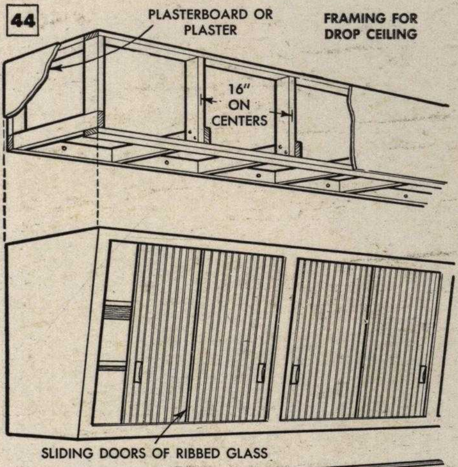

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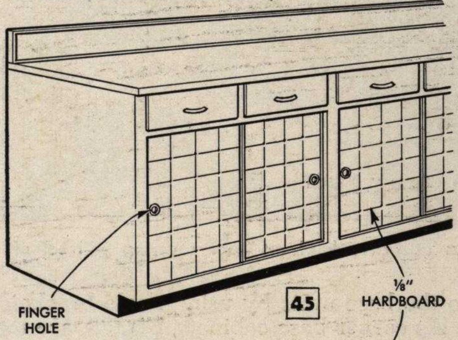

BASE CABINETS WITH SLIDING DOORS

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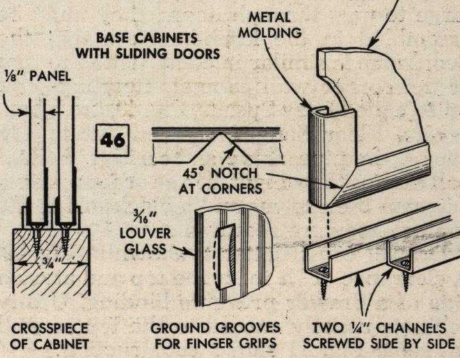

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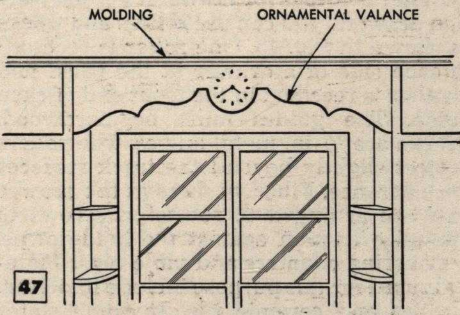


VALANCE USED WHEN CABINETS EXTEND TO CEILING

Photo courtesy Kentile

An attractive linoleum floor covering will set off kitchen cabinets to good advantage and is easily laid

to the base units by using angle brackets.

As corner base cabinets, Fig. 38, are too large to pass through doors, they must be assembled in the kitchen. Note that the doorframe is similar in construction to that of the corner wall cabinet. Rotating-shelf units, called Lazy Susans, Fig. 40, are laborsavers. Floor flanges, reamed out to slip over ¾-in. pipe, serve as bearings. A steel ball carries the weight. Three or four braces between the shelves and a block under the cabinet floor are required.

Drawer construction is shown in Fig. 42. A clearance of 1⁄16 in. at the top and at each side of a drawer prevents binding. Utility cabinets usually extend to the top of wall cabinets. Fig. 41 shows construction.

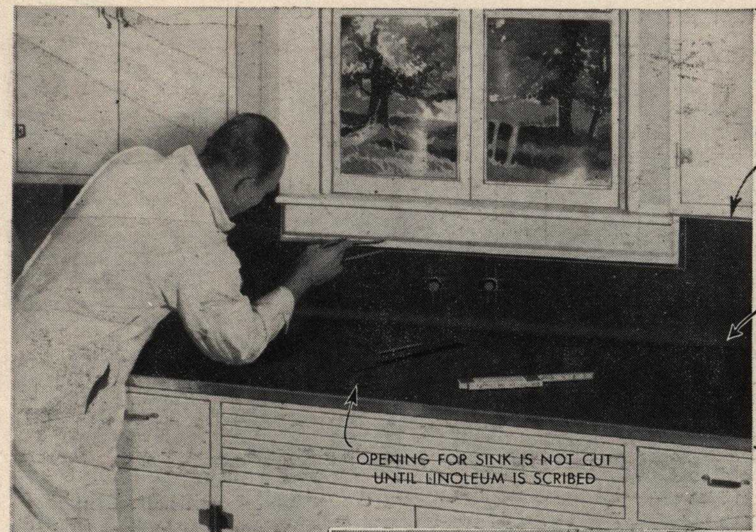
Roller bearings for drawers: For easy-action drawers, you can use rollers and tracks as shown in Fig. 43. One roller is recessed in each side of a drawer at the back, and another is recessed in the front end of each guide. The guides must be hardwood. Tracks are ½-in. metal angles. The rollers project slightly beyond the track surfaces for clearance. Fiber washers at the drawer tops are arranged to rotate on screws to minimize friction against the hold-downs.

Covering counters and table tops: Materials used for this purpose include linoleum, plastics and ceramic tile. In some states building codes specify what to use. Linoleum is laid over felt, Fig. 36, both the felt and linoleum being cemented with waterproof cement.

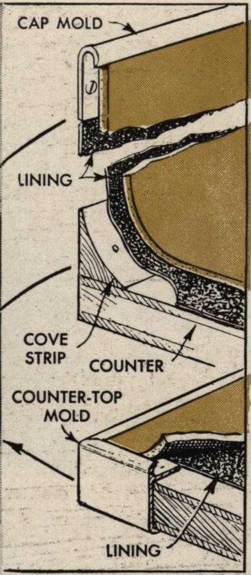
To apply sheet plastic, you spread special adhesive on the clean, dry counter or table top, and also on the underside of the plastic sheet. Let the adhesive air-dry from 40 min. to 2 hrs. The temperature should be 70 deg. F. Test the cement for dryness by pressing a piece of heavy wrapping paper on the surface. It should pull free without picking up any of the cement. Then place a piece of wrapping paper over the cement, and lay the plastic sheet, already cut to exact size, over this. (The plastic can be cut with a fine-tooth saw held at a low angle to prevent chipping along the edges.) Then pull out the paper and press plastic down into firm contact with counter. See detailed instructions on page 20.

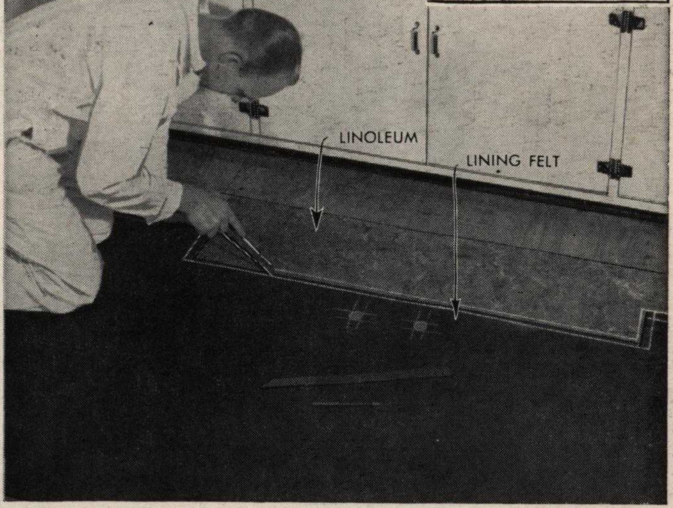
A variety of moldings in anodized aluminum, stainless steel and plastic can be obtained for installation at edges and corners of counter-covering materials. Types of moldings are shown in Fig. 36, details A to E.

Sliding cabinet doors: To make sliding doors of ⅛-in. tempered hardboard, you cement panels of this material in stainless-steel channels as shown in Fig. 46. By making 45-deg. cutouts, the stock can be brought around corners neatly. Metal channels of large size serve as slides. Bezels frame the finger-grip holes. Sliding doors



OPENING FOR SINK IS NOT CUT UNTIL LINOLEUM IS SCRIBED



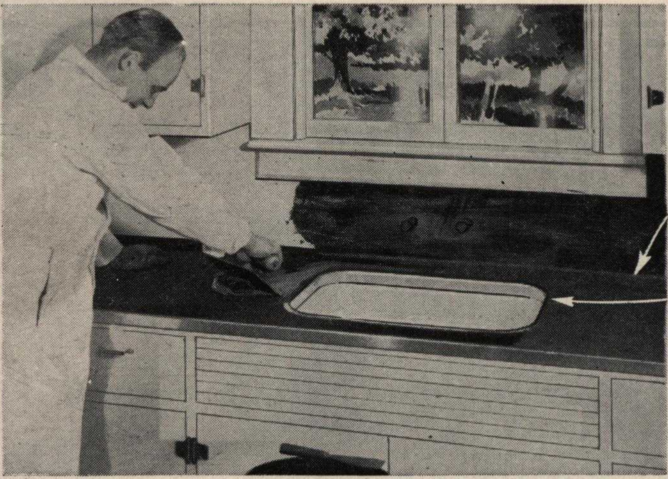


Above, counter installation of linoleum coverings is commonly made over a duplex felt lining as explained in the text. After the lining is fitted, it is used as a pattern for marking and cutting linoleum itself as at right

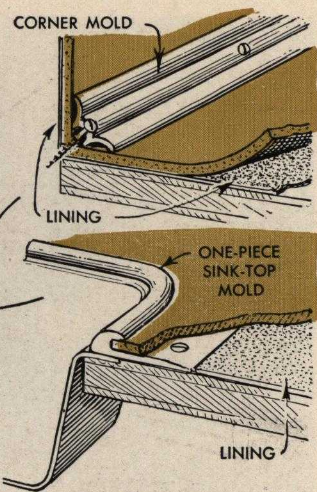
of glass are attractive for wall cabinets, Fig. 45. A channel is secured to the top and bottom edges of the glass, using special mastic. Sharpness along the edges of the glass can be removed with emery cloth held on a block or flexible pad. Shallow grooves are ground in the glass for finger grips.

Valances and drop ceilings: When cabinets extend to a ceiling on either side of a window, a valance as in Fig. 47, greatly improves the appearance. A drop ceiling or soffit, to close the waste space over wall cabinets, should be installed before the cabinets are put in place. The framework, Fig. 44, is nailed to ceiling joists and wall studs.

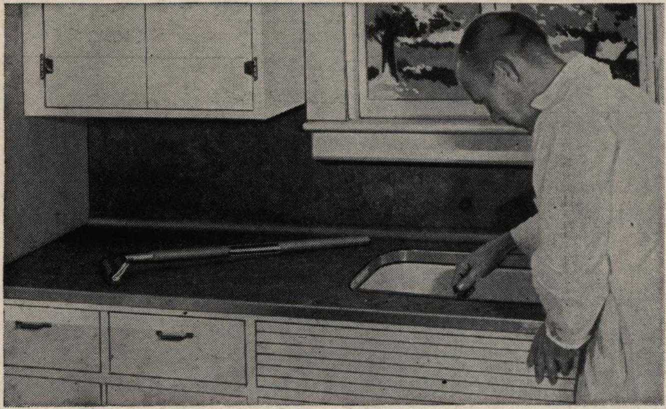
Counter tops: Covering the counter tops of cabinets calls for the best-quality linoleum and careful workmanship. It's common practice to lay the linoleum top over a felt liner, which provides not only a good cementing base but also a template for cutting the linoleum accurately. Start the job by installing all metal trim. Then, if the linoleum is to extend up the wall to provide a splash back, apply a flexible plastic cove strip in the corner between the counter top and the wall. Next, fit a length of liner felt ½ in. short at the corners, edges and metal trim. Do not cut out for the sink well; this will be taken care of later. After rough-cutting the felt, fasten it securely with thumbtacks so that it will not move during the scribing operation which is to follow. Be sure that the felt is pushed tightly against the cove strip. Set the scriber (dividers) to approximately a 1-in. opening and scribe up to all edges except the sink well and the front edge of the cabinet. Now, remove the felt and spread it over the linoleum. Tape it in place to prevent movement. Then, with the same divider setting, retrace all scribed lines to transfer the outline to the linoleum. Next, place the felt back on the counter top and fit it carefully to the flanged metal trim. Then cement in place using a moistureproof cement. Cut the lino-



DAMPPROOF CEMENT IS USED FOR BOTH LINING AND LINOLEUM



The upper detail above shows an alternate back-corner treatment for linoleum counter tops which is somewhat easier to work out than using the continuous top and splash back over a corner cove. In this alternate treatment, the top and back are applied separately, the back being butted to the top in a right-angle butt joint. A corner mold of plastic or metal finishes the joint. The lower detail above shows the fitting of the covering to the sink well. The linoleum is cut out for the sink well about 1 in. oversize and then underscribed to a neat fit in the sink-top molding (as at the left). The underscriber saves time in this operation

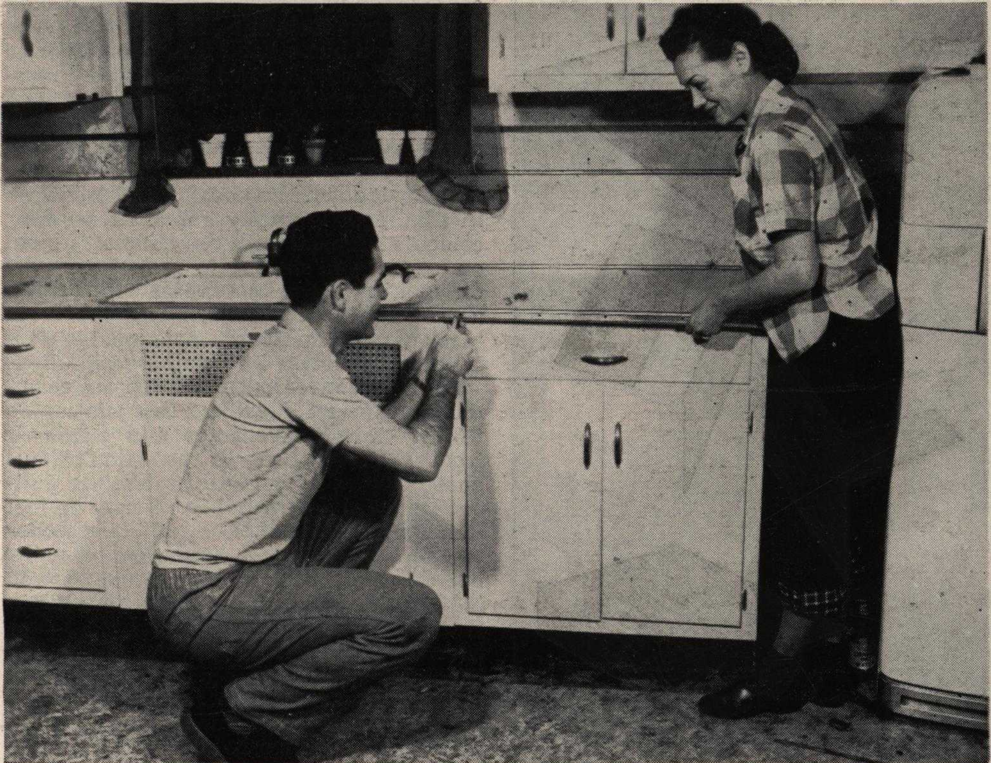


THE LINOLEUM IS UNDERSCRIBED TO FIT THE SINK MOLDING

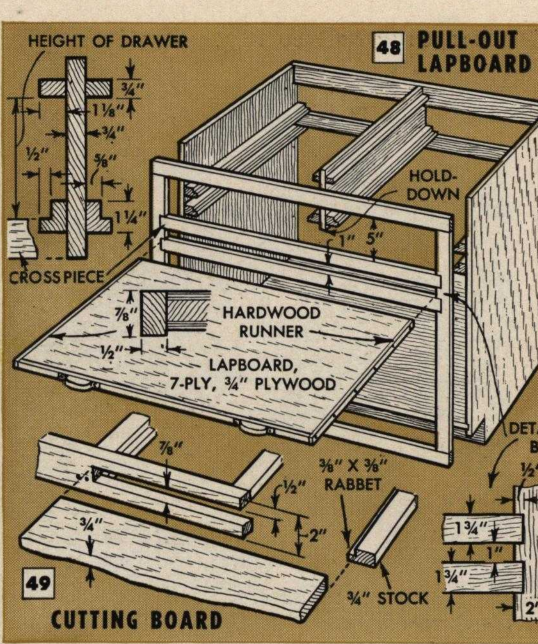
leum to the scribed lines, spread moistureproof cement over the felt and roll the linoleum in place. Make certain of a good contact over the cove strip in the corner. Go over the entire linoleum surface with a rolling pin to assure perfect contact. Underscribe the overhanging front edge and roll it down last. Cut out the sink well with a sharp knife about 1 in. oversize. Then underscribe to a neat fit in the sink-top molding. For this particular work the underscriber saves a lot of time where neatness is so essential. Finish all counter tops with paste wax rubbed to a high polish.

Other coverings: Other counter coverings besides linoleum are of course available, the most popular of which are the plastic laminates. These are as easily installed as linoleum. Begin by removing the old material from the counter and scraping or sanding it clean and dry. Then, cut the laminate to the exact size of the counter top, sawing at a low angle with a fine-toothed saw to avoid chipping the edges. For long straight cuts, use a carpenter's saw. For irregular shapes and where convenient, use a coping saw. Use cellulose tape or masking tape to hold the trimmed sheet of laminate in place while making the sink cut-out. You can make a rough cut-out first, sawing at least two inches away from the line of the final cut with a keyhole saw. Then make the final cut with a coping saw. To apply the bonding cement, pour it on the under side of the sheet of laminate and spread evenly. Work at a temperature of not less than 70 degrees with most cements and allow to air-dry for not less than 40 minutes nor more than 2 hours. (Instruction sheets and special spreaders are supplied with many laminate kits.) Test the cement for proper dryness by pressing a piece of wrapping paper on the surface. The paper should pull free without picking up any of the cement. Then place lightly on the counter a piece of wrapping paper large enough to cover it completely. Slide the laminate into place over the paper and

Above, rolling the surface of a plastic laminate counter-top installation to insure a snug bonding. Below, installing the lip molding for the front edge of the counter top, one of the next-to-last steps

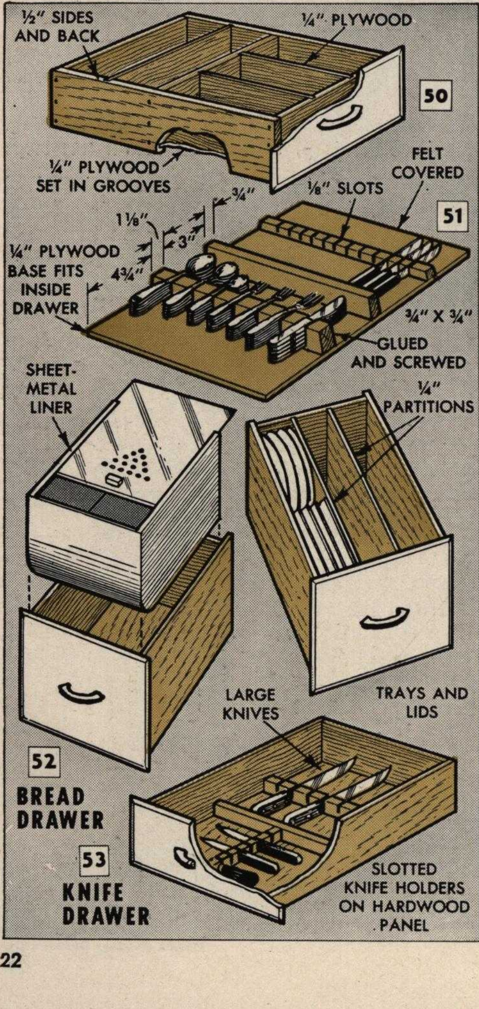


Photos courtesy Formica Co.



48 PULL-OUT LAPBOARD

49 CUTTING BOARD



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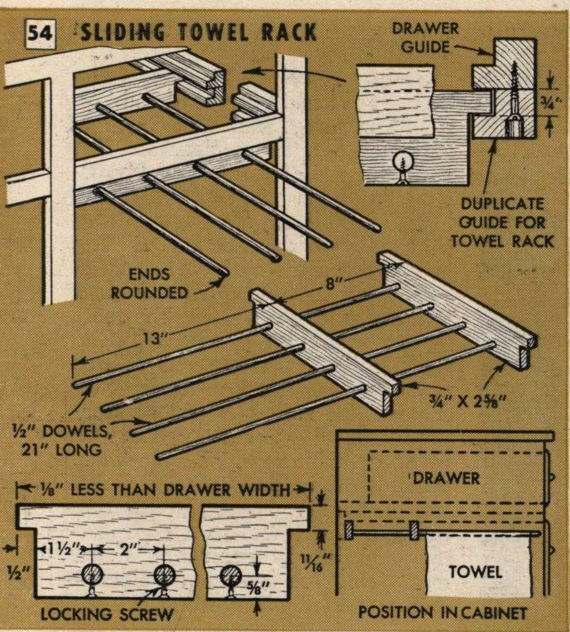
51

52 BREAD DRAWER

53 KNIFE DRAWER

align it in perfect position. Now raise the sheet of plastic laminate and withdraw the paper 2 or 3 in. Where the paper has been withdrawn, press the laminate firmly into place. Then withdraw the paper completely and roll down the entire surface of the counter top with heavy pressure, covering every square inch. A rolling pin will serve for this job but a hand roller of narrower width will provide more concentrated pressure. (If use of the wrapping paper "slip sheet" is impossible, hold the plastic laminate sheet at a 45-deg. angle to the surface of the counter top, register it accurately, then lay it down into position and roll. Care in alignment is vitally important as most cements supplied with the laminates bond on contact and shifting to correct errors is difficult.) Areas not accessible with a roller should be tapped down. Place a smooth block of wood on the laminate and tap with a hammer. Finish by installing moldings.

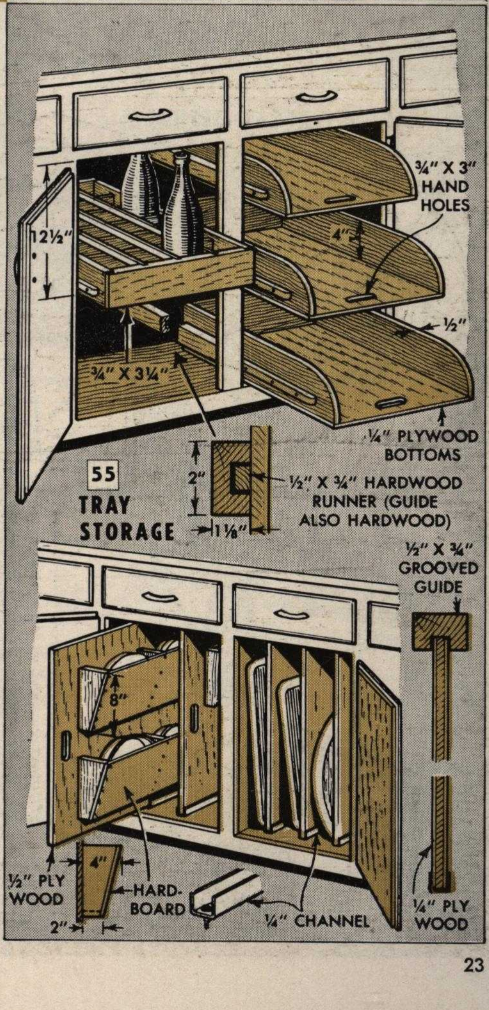
Kitchen conveniences: There are many minor yet important things that you can do to get extra convenience and efficiency from your kitchen. If you don't have enough space for an extra table, the pull-out lapboard shown in Fig. 48 may be just the thing you need. Located right under two top drawers or a single long one, the board is installed in a base cabinet 26 to 28 in. from the floor. If you build the cabinet yourself, and you wish to include a lapboard, the cabinet front should have two crossrails instead of one, with sufficient space between them to accommodate the lapboard. Hardwood runners screwed to the ends slide on hardwood guides that are

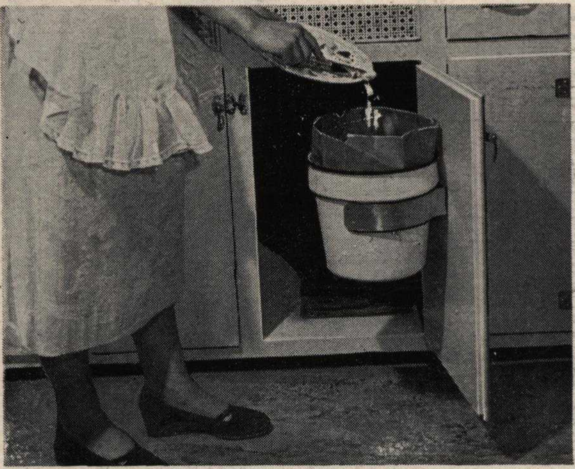

54 SLIDING TOWEL RACK

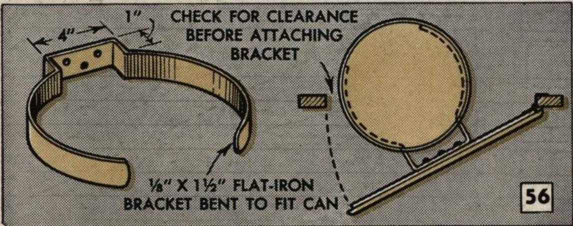
made just like regular drawer runners and are installed below them. The runners extend 1/8 in. below the panel and a clearance of 1/16 in. above and below the runners is required to prevent the board from rubbing against or binding between the crossrails. The partition between two drawers above a lapboard should be wide enough to serve as a hold-down for the board to prevent its tipping down when pulled out. The guides and hold-downs of the drawers above the board are screwed to the partition. Note how the front crossrails are mortised into the side rails as in detail B, Fig. 49, for maximum resistance to pressure.

Drawer arrangements: Partitioned drawers, Fig. 50, are convenient for storing everyday silverware, but the felt-covered holder shown in Fig. 51 offers better protection against scratching. Blocks slotted to hold the silverware are attached to a removable panel that fits inside the drawer. The felt is glued on, even in the knife, fork and spoon slots, but on the steak-knife rack the felt is just slit down the slots with a razor blade. Carving and paring knives can be stored in drawers with less risk of getting their sharp edges nicked and with less danger of cutting fingers if they are set with their sharp edges down in slotted holders as in Fig. 53. The holders are screwed to a removable panel of plywood or hardboard.

A deep drawer can be partitioned for storage of tins and lids. The partitions are held in grooves, metal channels or between lengths of 1/4-in. quarter-round molding. Fig. 52 shows a sheet-metal bread-drawer


55 TRAY STORAGE

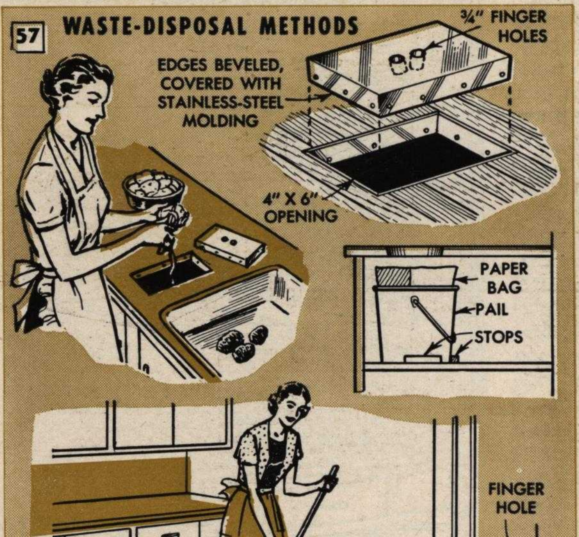



4"
1"
CHECK FOR CLEARANCE BEFORE ATTACHING BRACKET
⅛" X 1½" FLAT-IRON BRACKET BENT TO FIT CAN

56

57

WASTE-DISPOSAL METHODS



liner which can be purchased ready-made.

Sliding towel rack: Towels can be kept at hand but out of sight on a sliding towel rack in a base or sink cabinet, as in Fig. 54. The rack consists of a number of hardwood dowels fitting snugly in holes drilled in two crosspieces that slide on drawer guides. The guides of a drawer above the towel rack serve as hold-downs. In case there is no drawer above the rack, as in a sink cabinet, you will need rack guides having a U-shaped cross section. The front ends of the dowels are rounded and sandpapered smooth. Screws are driven through the crosspieces to keep the dowels in position and make the assembly rigid. Ventilation through the towel-rack compartment is highly desirable. Some manufacturers provide an electric heater and a circulating fan for towel compartments.

Other storage facilities: Vegetables and heavy cooking utensils such as skillets, and also empty beverage bottles, can be kept in orderly fashion if you provide sliding units in base cabinets as shown in Fig. 55. Hand holes are cut in the bottom of sliding shelves that have no front. For vegetables, you may prefer a drawer having a front, in which case a row of holes for air circulation should be bored in the sides near the lower edge just above the bottom. Hardwood strips on the sides of the units fit grooved hardwood guides as shown in the detail. Use of roller bearings on sliding shelves, as described previously on page 18, will greatly reduce friction. Divider strips on the unit for empty bottles provide individual wells for holding them.

To keep trays out of sight, set them vertically between partitions in a base cabinet as in Fig 55. The partitions may be held in channels or between molding strips. Shallow pans, lids and tins can be kept in pockets attached to vertical panels that slide in channels. The pockets can be attached to both sides of the panels. Hand holes are provided as shown.

Waste-disposal methods: One of the handiest places to hold a container to take table scraps, vegetable peelings, etc., is the cabinet door under a sink. It saves steps and avoids stooping. A simple arrangement consists of a rimmed container that can be held by a bracket bent to fit as in Fig. 56. Three screws hold the bracket to the cabinet door. Before attaching it, check for clearance when opening the door. Keep a waxed bag in the container for easy removal of contents to the outside waste can. The bag also eliminates constantly washing the container.

A somewhat similar idea is shown in the two upper details of Fig. 57. An opening is cut in a counter top to center directly over the container, which is set on a shelf below and is held in the proper position by stops nailed to the shelf. The edges of the opening are lined with stainless steel, which also is used on the edges and top surface of the hardwood-block cover. It fits flush with the counter surface and has two finger holes drilled at a slight angle toward each other. Cutting and chopping of vegetables, meat, etc., should be done on a hardwood board unless the counter itself is laminated hardwood.

Floor sweepings simply drop into a pan hung on the basement ceiling if you install a dust chute in the kitchen wall at floor level as shown in the detail below Fig. 57. Cut out the plaster, baseboard, floor boards in the partition, part of the sole plate, and a section of the basement ceiling to install a wall-register fitting of a warm-air furnace duct. Finish the job with a neat frame and provide a door, hinged at the top. By beveling the top of the frame, the door can swing back far enough to prevent it from dropping down of its own weight. A wall chute of this kind is preferable to an opening in the floor which entails accident risk.

Extra storage space: A separate shelf to store cups makes more space available for other dishes The cup shelf has a cleat at each end so that it is held by four shelf brackets which can be adjusted for height, Fig. 58. Similar narrow shelves can be used for tumblers.

Another convenience is a plate rail on a cabinet shelf, as in Fig. 59, for large serving dishes that cannot be stacked. The rail is merely a strip of wood nailed to the shelf. A long one can be located near the rear edge, and short ones at the

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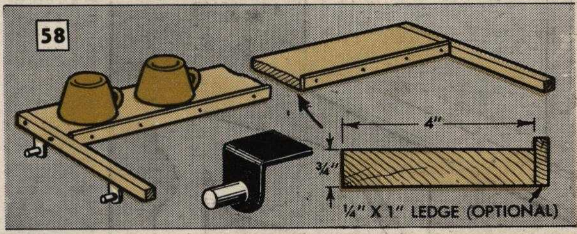
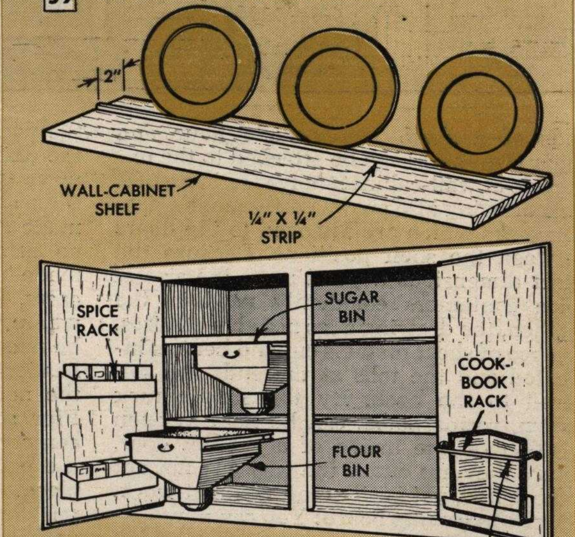


59 EXTRA STORAGE IN WALL CABINETS



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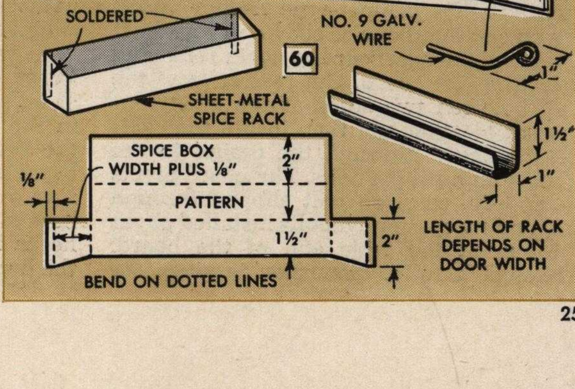
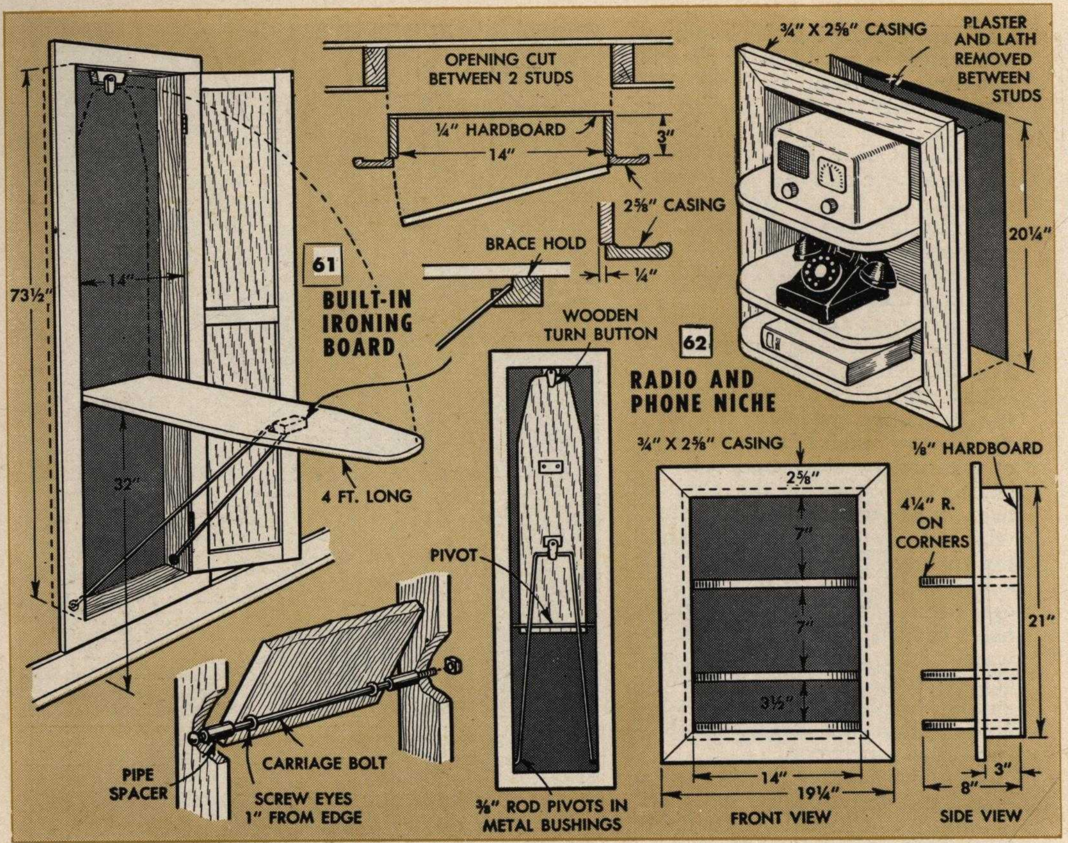
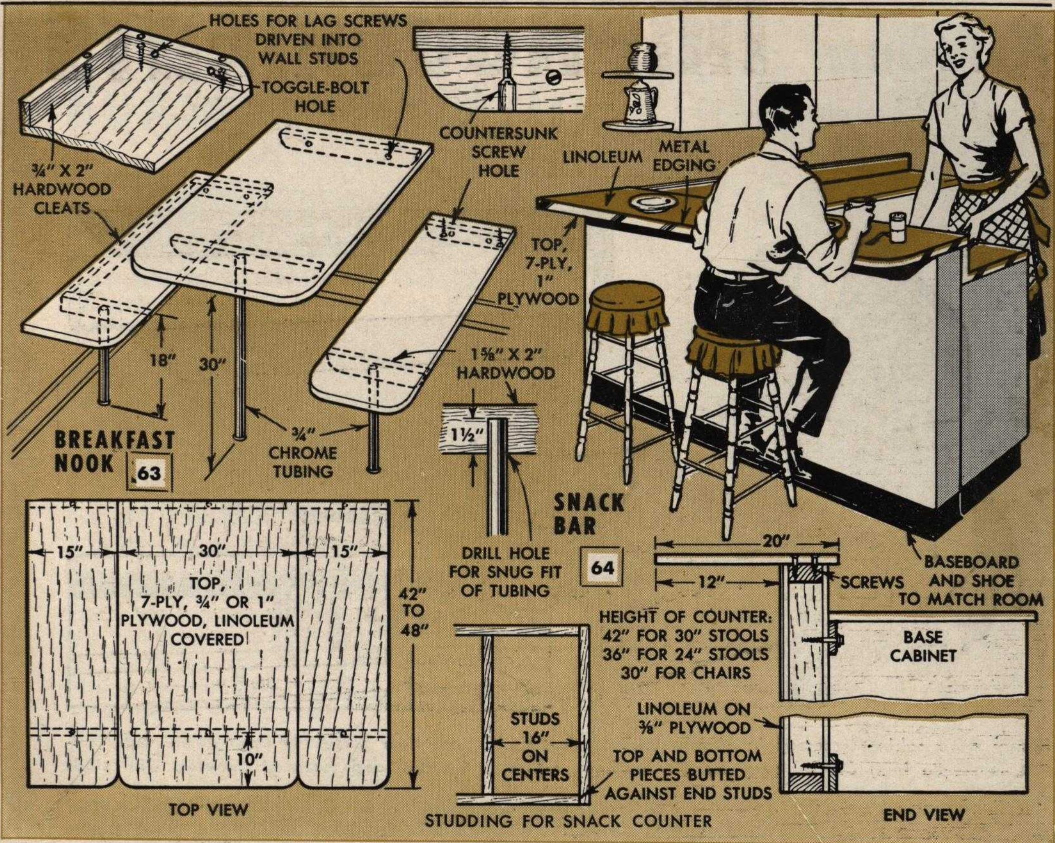




ends of a shelf. Ready-made flour and sugar dispensers can be attached to the underside of wall-cabinet shelves as in Fig. 60. This drawing also shows easily made spice-box racks which are attached to the doors between the shelf positions. Because the exact dimensions depend upon the size of spice containers commonly used in the kitchen, the drawing does not give all sizes. A piece of sheet metal is cut and bent as indicated and the tabs at the ends are soldered to the back. By the simple rack shown, recipe books can be held in open position on the inside of a cabinet door, where they are out of the way and not apt to be soiled, yet easily read while at work.

Built-in ironing board: You can purchase a ready-made cabinet-type ironing board or you can build one as shown in Fig. 61. It fits above the baseboard to avoid removing or cutting the board. Cut plaster from the wall between two studs at the most convenient location and then install the cabinet, nailing it through the casing to the studs with finishing nails. The board pivots on a ⅜-in. carriage bolt slipped through large screw eyes or eyebolts installed about 1 in. in at the wide end of the board. Although a 14-in. dimension is given for the width of the cabinet, this will vary as the distance between wall studs is not always the same. Therefore, the opening in the wall should be cut first and the cabinet made to fit. If you find the studs to be 16 in. on centers, the cabinet will have to be made narrower than indicated. In some cases, where existing studs are not located where you prefer the ironing board, it may be necessary to straddle a stud and install headers and vertical members to provide the necessary framework for the cabinet Pipe spacers on the bolt keep the board centered. After the nut is turned on, peen the ends of the thread to lock the nut in place. Allow just enough clearance to permit the board to be raised and lowered without rubbing against the back of the cabinet.

A wooden turn button prevents the raised board from falling unexpectedly. A ⅜-in. steel rod, bent to a U shape as shown in the detail, provides sturdy bracing for the board when in use. The ends of the brace are bent outward to fit in metal bushings or sleeves in the cabinet sides at the bottom. The natural spring of the brace keeps the ends in place. The other end of the brace butts into a notched block on the



BREAKFAST NOOK 63

SNACK BAR 64

HOLES FOR LAG SCREWS DRIVEN INTO WALL STUDS
TOGGLE-BOLT HOLE
¾" X 2" HARDWOOD CLEATS
COUNTERSUNK SCREW HOLE
18"
30"
¾" CHROME TUBING
1⅝" X 2" HARDWOOD
1½"
DRILL HOLE FOR SNUG FIT OF TUBING
15"
30"
15"
TOP, 7-PLY, ¾" OR 1" PLYWOOD, LINOLEUM COVERED
42" TO 48"
10"
TOP VIEW
LINOLEUM
METAL EDGING
TOP, 7-PLY, 1" PLYWOOD
BASEBOARD AND SHOE TO MATCH ROOM
20"
12"
SCREWS
HEIGHT OF COUNTER: 42" FOR 30" STOOLS 36" FOR 24" STOOLS 30" FOR CHAIRS
BASE CABINET
LINOLEUM ON ⅜" PLYWOOD
TOP AND BOTTOM PIECES BUTTED AGAINST END STUDS
STUDS 16" ON CENTERS
STUDDING FOR SNACK COUNTER
END VIEW

underside of the board. When not in use, a wooden turn button on the board keeps the brace from falling. An electric outlet should be provided in the inside of the cabinet at the top so that the ironing cord hangs out of the way.

Built-in radio and phone niche: Installed like the ironing-board cabinet, a wall niche as shown in Fig. 62 keeps a radio and phone out of the way, yet convenient. Install it at the right height for dialing. The shelves must extend beyond the casing to provide the necessary space and the corners are all rounded the same radius for good appearance. The niche should have an electric outlet for the radio, preferably at the top.

Breakfast nook: About the simplest construction for an attractive breakfast nook is shown in Fig. 63. Table and backless benches are cut from a single 4 x 5-ft. plywood panel. Hardwood cleats on the underside provide a means of sturdy support. The cleats used for attachment to walls are flush with the edges and are drilled for lag screws driven into wall studs. Bench cleats are attached with one lag screw and one toggle bolt as they are not wide enough to pass two studs. Where one bench fits against an end wall, a cleat is provided at this wall edge also. A seat corner adjoining a wall is not rounded. Wider cleats located about 6 or 8 in. from the other end of table top and benches are bored centrally to take chrome legs. Since there are only three legs, floor cleaning is easy. Benches are simply enameled and the table top may be either painted or covered with linoleum.

Snack bar: Even though space is at a premium, you may still be able to install a three or four-stool snack bar. It can be attached to a wall with brackets or may extend into the room, backing against a base cabinet or range as in Fig. 64. For good support, build a wall of regular studs, including sole and top plate. Flat-headed wood screws, 3 in. long and spaced about 12 in. apart, hold the counter to the top plate. Studs are covered with plywood, and linoleum may be cemented over it on the counter side. The wall end of the counter is screwed to a cleat fastened to the wall with a lag screw and toggle bolt. The height of the counter may be varied according to the height of the stools. These, when not in use, are pushed under the counter.

Certain information courtesy Formica Co.

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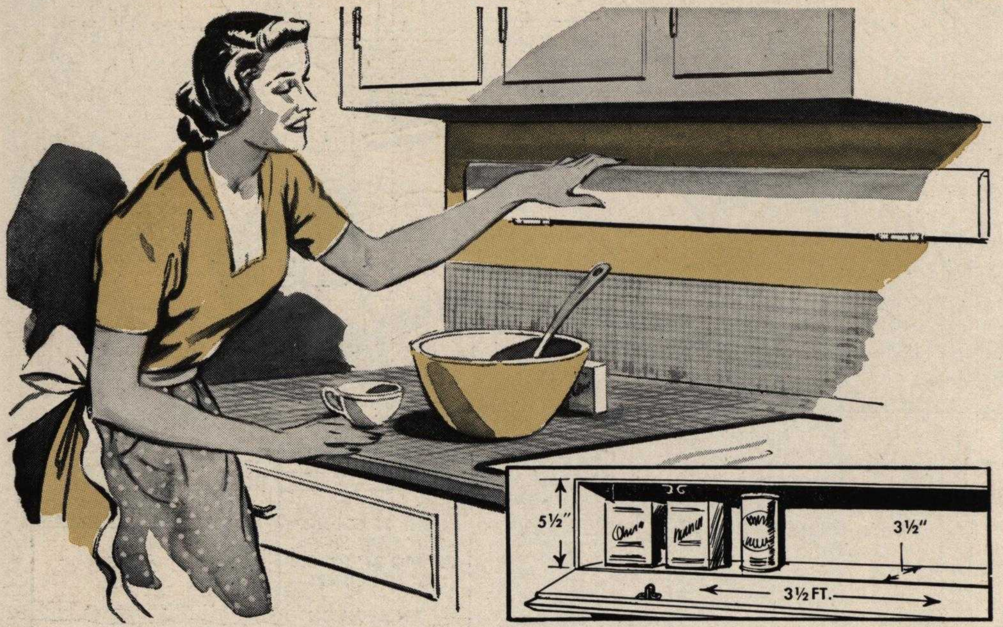
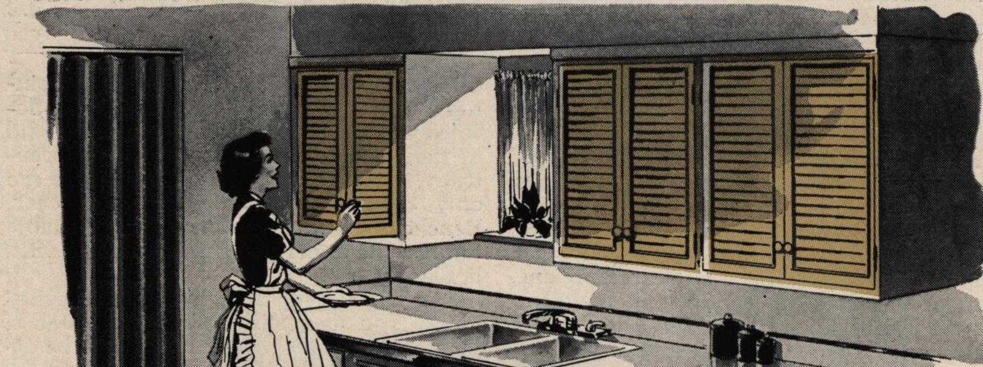
Kitchen IMPROVEMENTS



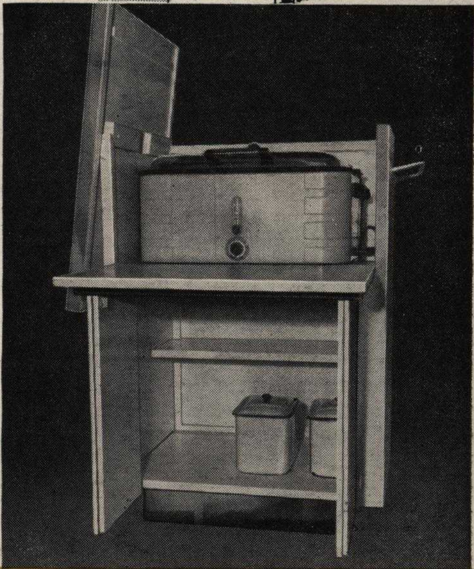
Handy spice cabinet recessed in kitchen wall is closed with neat door hinged to open downward. Cabinet is simple box, 3½ in. deep by 5½ in. high, which is inserted and fastened between wall studs

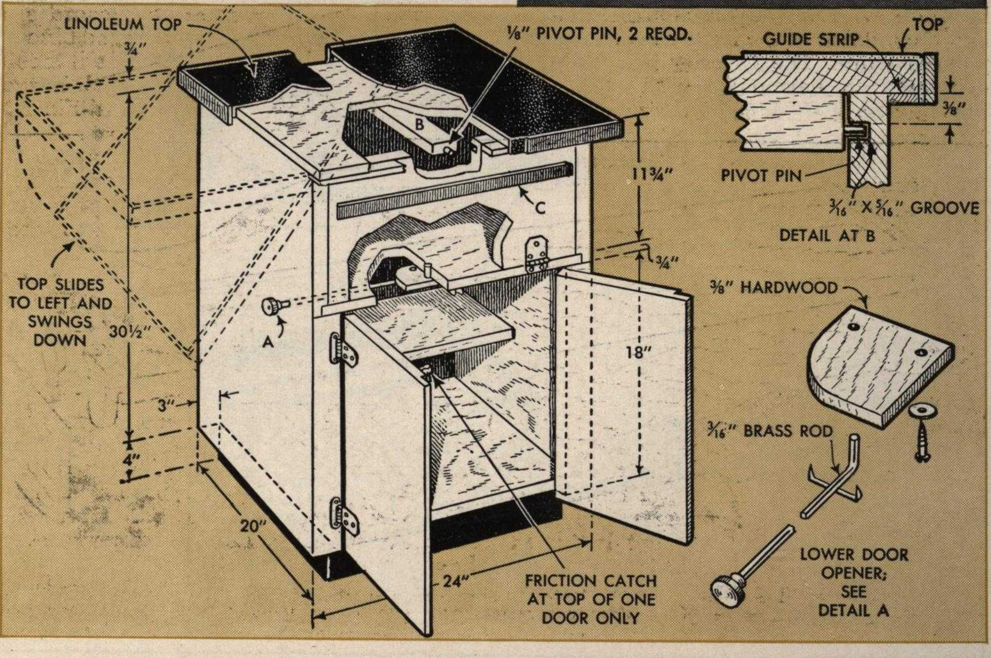


Just think of the change that can be made in a kitchen by replacing older-type panel doors with louver doors in both wall cabinets and the undersink cabinet. After refinishing, everything will seem new

Slide-Top
ROASTER CABINET

SEVERAL unusual features adapt this roaster cabinet to use in small kitchens where space is limited. The pivoted top slides sidewise to open and tilts to a vertical position as pictured. This releases the hinged front panel which drops down on the open cabinet doors to form a service shelf. The lower doors are opened by pulling on a single knob which projects from the left side of the cabinet as in the detail A below. This operates the cam mechanism shown in the lower right-hand detail and pictured in position in the center detail. Detail B, upper right, shows how the sliding top is pivoted. The pivot pins slide in grooves cut in the back rail and the inner face of the front panel. Registering grooves also are cut in the front and back facing strips on the edge of the side panel. After the top has been pushed to the left as far as it will go, the pins enter these grooves and permit the top to swing to the vertical position, as in the photo. With the exception of the base, top and bottom rails at the back and the facing strips, all parts are made from plywood. Strip C serves as a spacer between the front panel and the top edges of the doors when the panel is dropped to the horizontal position.





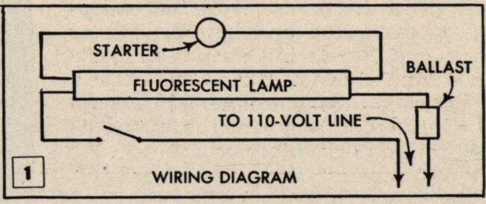
SHELF LIGHT

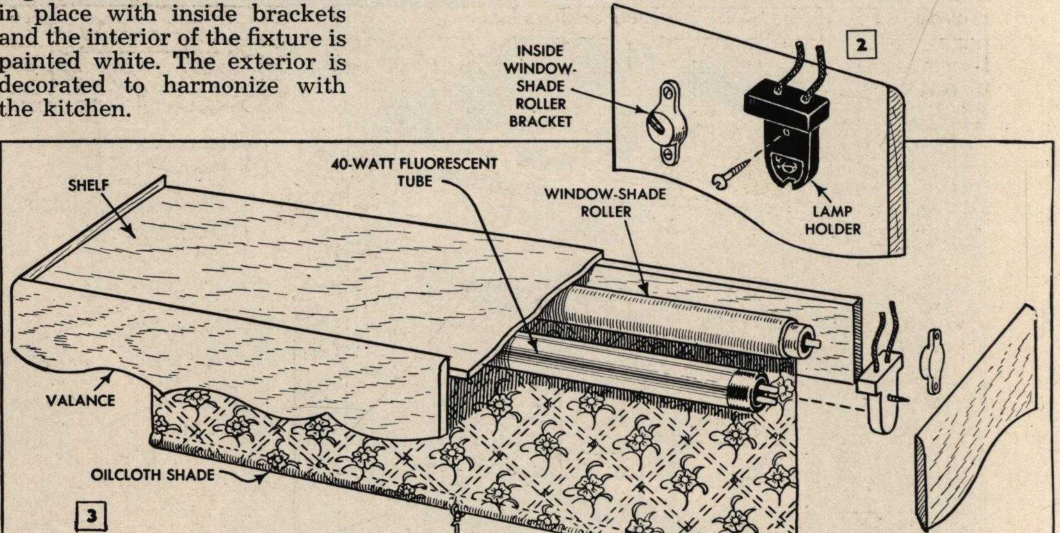
MOUNTED ABOVE a kitchen range, this handy shelf light houses a fluorescent lamp and an oilcloth shade which can be lowered to protect the wall from grease spots. The unit is also a step-saver because its flat top provides an excellent shelf for a canister set.

The lamp parts, which can be purchased at most electrical-supply stores, consist of a 40-watt fluorescent lamp, one lamp holder, one combination lamp holder and starter socket, one automatic or manual-type starting switch and a proper ballast. These parts are wired as shown in Fig. 1. As fluorescent lamps radiate considerably less heat than filament lamps, an all-wood fixture, Fig. 3, can be used. The design of the fixture lends itself to the installation of the roller and the oilcloth shade.

No dimensions are given for the shelf and valance as these can best be determined from the length of the window-shade roller and the tube. The lamp holder must be drilled for a mounting screw, as shown in Fig. 2. The shade roller is held in place with inside brackets and the interior of the fixture is painted white. The exterior is decorated to harmonize with the kitchen.

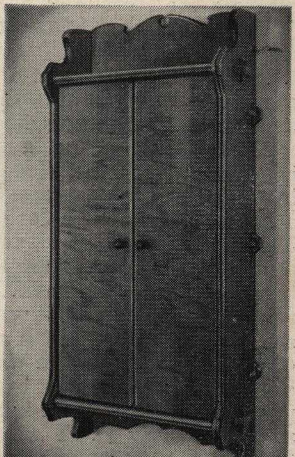
This combination fluorescent light and window-shade backdrop for the range protects the wall from grease spots and provides extra shelf space and additional illumination to make cooking easier



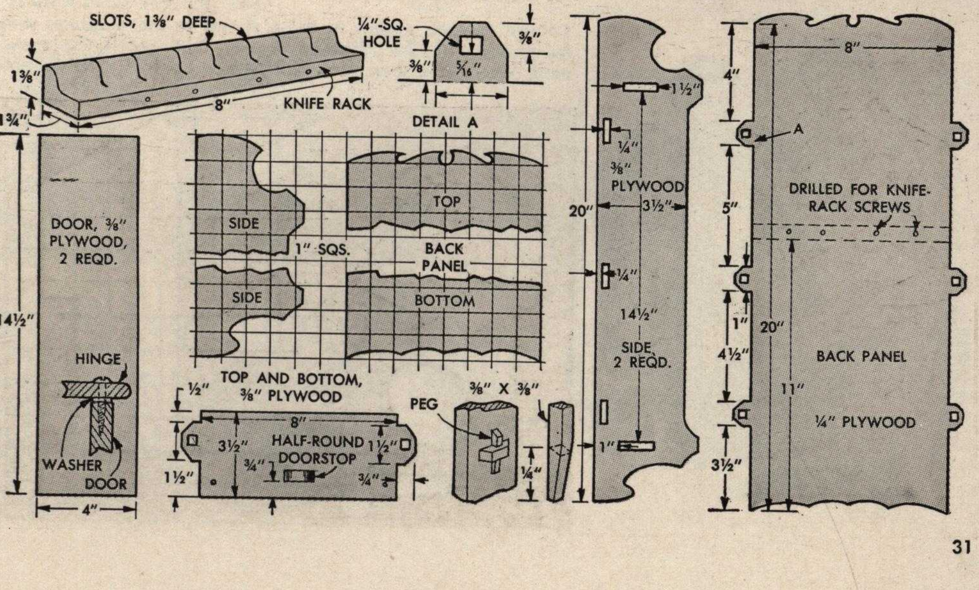


CUTLERY CABINET

Here's a chance to put your craftsmanship on display by building this interesting cutlery cabinet. The cabinet features novel interlocking construction and, whether made of plywood, hardwood or knotty pine, it makes an attractive addition to a kitchen or dining room



TO BUILD THIS cutlery cabinet, use ¼-in. plywood for the back panel and ⅜-in. plywood for the remaining parts. Birch plywood was used for the cabinet pictured. First, jigsaw the back panel, following the squared pattern for the top and bottom scrolled designs. Then cut the two side panels, slotting them to receive the tabs on the back panel and top and bottom pieces. The latter are cut identically and a section of half-round molding is glued to the inside surface of the bottom piece to provide a stop for the cabinet doors. The doors, which are 4 by 14½-in. panels, are hinged as in the lower left-hand detail, round-headed wood screws being driven through oversize holes in the top and bottom pieces to form pivots. The knife rack is cut and shaped from 1⅜-in. hardwood and slotted to take the knife blades. The narrow edge of the rack is glued and screwed to the back panel. Finish all parts separately before assembly, and then lock the parts together by driving tapered hardwood pegs through the projecting tabs.

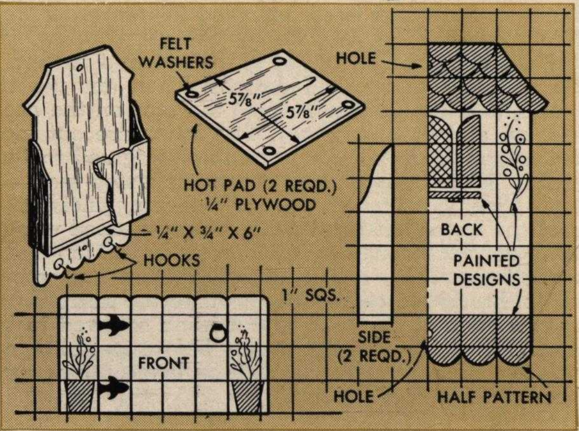


KITCHEN NOVELTIES

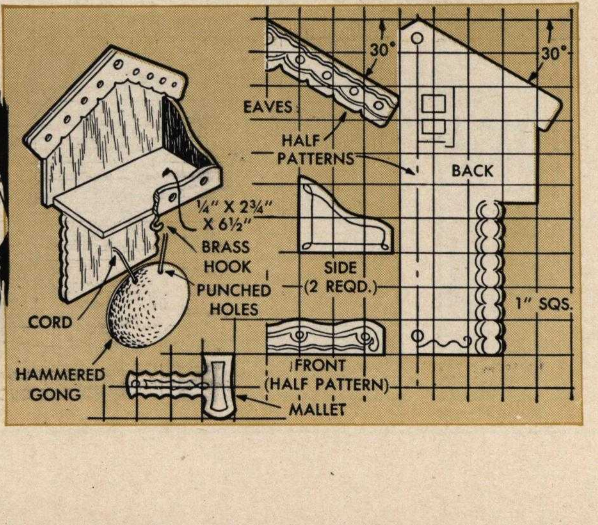
JUST THE THING to brighten up the kitchen, these two wall novelties, representing little cottages, provide convenient storage for hot pads, pot holders and condiments. The salt-and-pepper shelf also includes a dinner gong and mallet.

To make the hot-pad holder, enlarge the design on paper ruled in 1-in. squares, transfer it to ¼-in. plywood and jigsaw the parts. Sand the sections smooth and fasten them together with brads. Then drill two holes for hanging the shelf, one at the top and the other at the bottom of the backboard. Cloth pot holders are hung from two screw hooks turned into the backboard below the hot-pad shelf. Thin felt washers glued to the back of the plywood hot pads will keep them from marring the surface of the table.

The shaker shelf is assembled in the same manner as the hot-pad holder, except for holes drilled in the eaves and front of the shelf for decoration. The gong is made from a tin-can lid having a finished edge, such as the lid of a shortening can. Dish the gong and give it a hammered finish before polishing it with steel wool, and then punch two holes near the edge for hanging it from the shelf. Finally, wax the gong or coat it with clear shellac and hang it with a length of cord attached to the underside of the shelf. The mallet is made of plywood and should be hung from a brass screw hook directly in front of the gong.



Colorful designs similar to those shown in the diagrams may be painted on the plywood shelves with poster, or show-card, colors and then protected with a coat of clear varnish



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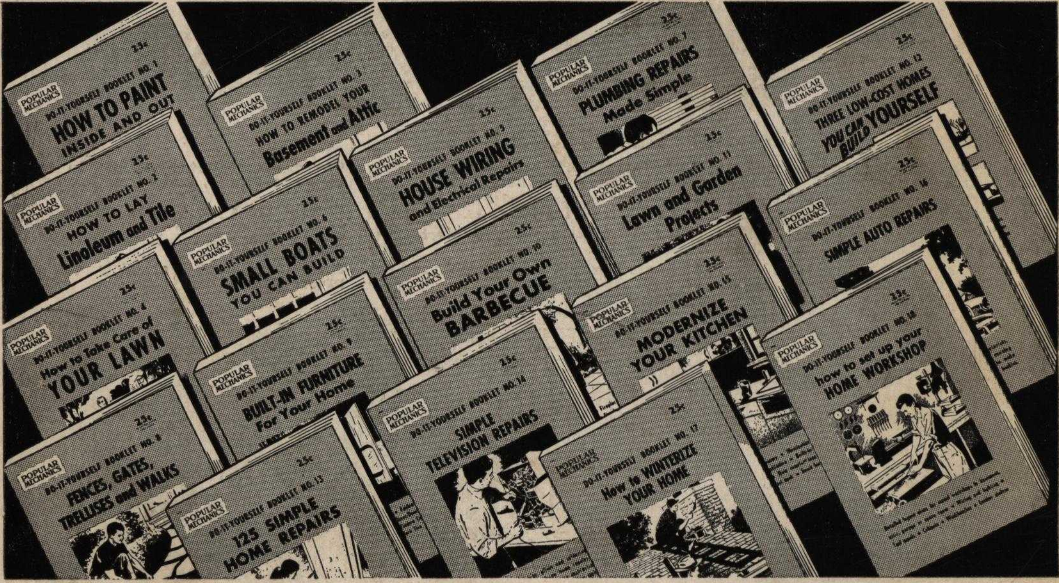
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